Advanced

WirelEx Fire

# User manual

## INTRODUCTION

This guide details how to program the wire to wireless device (translator), its wireless coverage extenders (expanders) and the system's child devices. Programming is carried out before the translator device (thus the wireless system) is connected to the hard wired control panel.

System coverage can be increased by the using range expander modules; these must be directly powered by suitable EN54-4 compliant 12-24$V_{DC}$ power supply units.

If the installation requires a large number of devices, it is recommended to program them before deploying to their intended locations.
It is also recommended to make a complete site survey before starting at all: doing this will help to determine the optimal device's position arrangement.

This guide describes, also, the available auxiliary procedures useful for diagnosing potential problems, assessing their causes and carrying out solutions.

Before you start, be sure to have the suitable **WirelEx Fire** software installed on a portable pc and a RS232 serial connection (9 pin DE-9 type connector cable).

## WIRELESS DEVICES - GENERAL DESCRIPTION

A wireless fire security system is composed by a combination of the following devices:

### WIRE TO WIRELESS TRANSLATOR

This is the core of a wireless system.
It communicates continuously with all the other wireless devices.
On the other hand it communicates with the control panel of the wired intelligent fire security system.
Summarizing: the translator communicates with the control panel through wire and with all wireless devices through radio.

As any other fire security system, the whole system (hard wired and wireless) is controlled by the control panel; the translator is just the interpreter that holds exclusive rights of communication with the wireless devices, thus making possible communication between the control panel and the radio devices: this is why this device is called "translator".
The wireless system overall configuration, as created by the installer, is stored in this device.

### WIRELESS CONVENTIONAL EXPANDER

Permits to add a wireless system to a conventional control panel; this device is connected directly to the zone line.
This type of expander silences its wireless sounders after receiving the suitable signal from the conventional panel's sounder line.

### WIRELESS EXPANDERS

Translators and conventional expanders communicate with other wireless devices only in a certain range or if consistent obstacles are out of the way. When wireless area coverage needs to be expanded or the environment poses obstacles to radio communication, it is possible to use one or more expanders.

### SENSORS

These devices sense smoke and / or heat in the environment; if heat and / or smoke exceed a certain limit, the wireless system goes in alarm.

### SOUNDERS

These devices emit sound when the wireless fire security system is alarmed in order to alert people in the protected environment that they are in danger. Sounders can be combined with inbuilt strobes that add to the acoustic indication a visual one.

### BEACONS

They have a similar function to the sounders with the difference that they emit light and not sound.
When the fire system is alarmed, the light signal from these devices alert people in the protected environment that they are in danger.

### VOICE ANNUNCIATORS

These devices are actually very similar to sounders: instead of emitting preselected standard tone patterns, voice annunciators emit pre-recorded human voice messages.

### CALL POINTS

Call points are used to manually raise an alarm condition in the protected environment.

### MODULES

It could be sometimes necessary to connect the wireless system to other devices that are not designed to communicate with the translator; to connect them to the fire security system, a module must be used.
External devices generally work on an on / off basis.
First example: an external device is activated, the connected module detects this event and alerts the translator.
Second example: the wireless system falls in alarm, the module detects this event and activates the external device.
Module devices are classified as input or output types; the first example above gives an idea of what is an input module; the second example above gives an idea of what is an output module.

### DOOR HOLDERS

These devices keep fire doors open. In the event of a fire alarm, the fire doors are released to allow them to shut.

### REMOTE INDICATOR LAMPS

When the system is alarmed, these devices emit a continuous light.

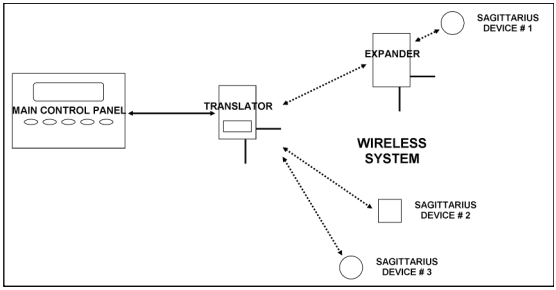
## WIRELESS SYSTEM - BASIC INFORMATION

The translator is connected to the control panel through the hard wired intelligent loop; on the other hand, the translator communicates through radio signals with all wireless devices.

The translator communicates with the wireless child devices either directly or indirectly through the expander modules.

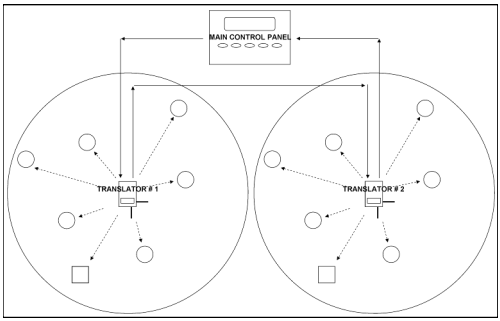
The main control panel interacts with the child devices through the translator.

When configuring the wireless system, you must program the translator and the expanders (if present).




Before you position the system components to their locations take into account that:

- there is a maximum number of child devices and expanders that can be linked in a single wireless system, so to its central node: the translator;
- the communication range of the translator, expanders and all child devices is limited; range shrinks in indoor environments.

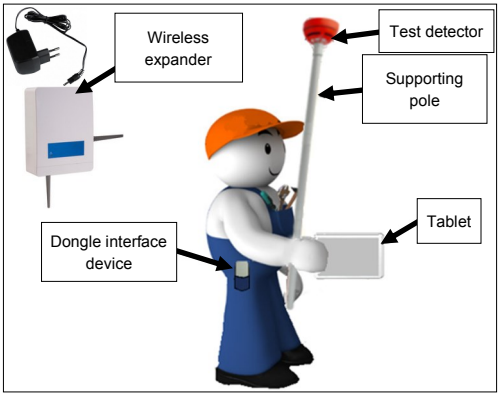



It is suggested to keep all wireless devices at least 2 meters distance from:

- equipment using large amounts of electrical current
- large metal objects, structures or metal ceiling structures
- fluorescent lighting fixings
- computers, their cabling and network cabling
- the control panel.

If you need a number of child devices higher than the maximum number allowed by a single wireless system, you can connect to the control panel more than one translator: all wireless child devices will be partitioned between their “father” translators.

## THE RADIO SURVEY KIT




This diagnostic kit allows you to discover the best possible positions for child devices in terms of wireless signal’s quality. The kit is composed by a wireless detector, an expander, a tablet, a dedicated dongle interface device and a pole.

You simply place the kit’s expander in the location where a translator or expander is planned to be installed.

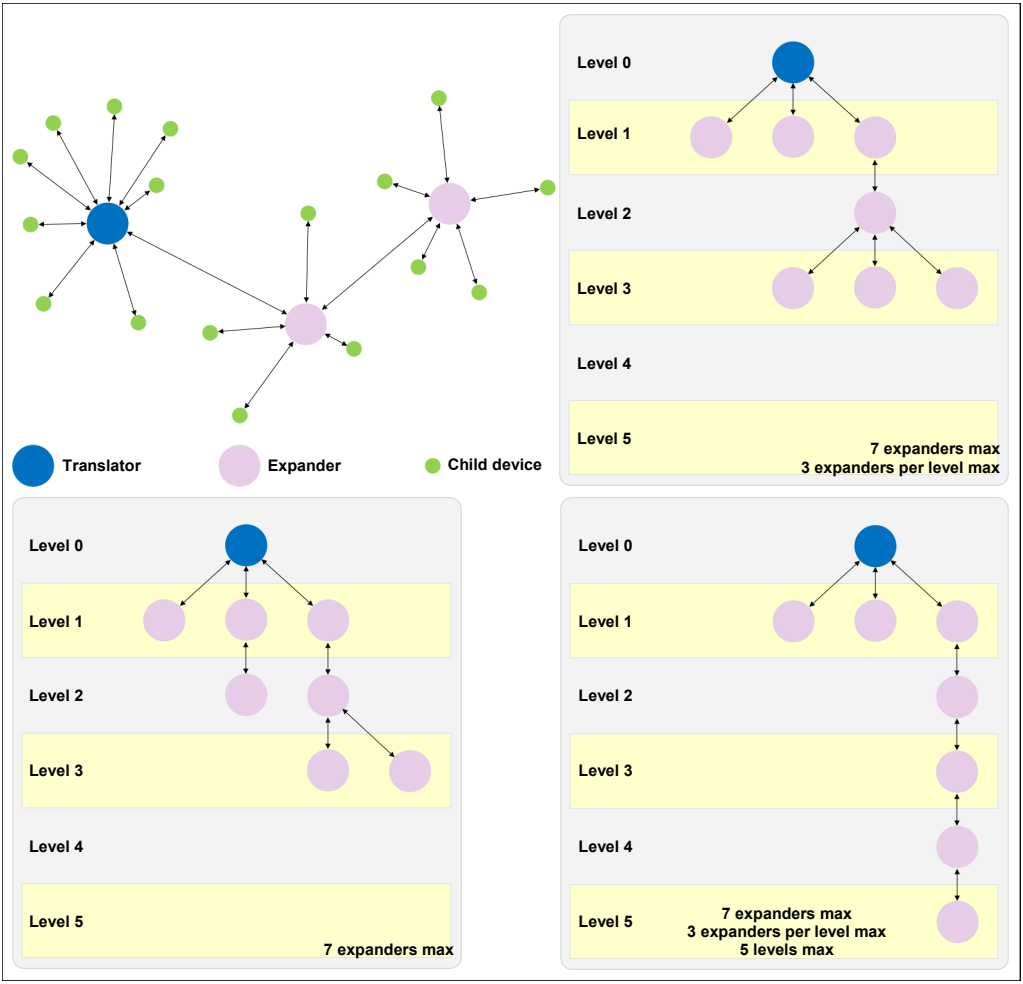
Using the kit’s detector, you assess, by sampling the various possible locations, the wireless signal’s quality.

Assessment values are visualized on the tablet’s screen.

To assess locations at ceiling level, it is possible to fit the test detector at one end of the pole.

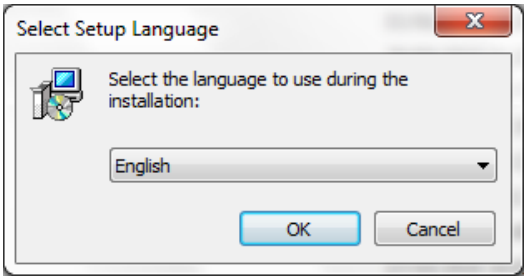
**SINGLE WIRELESS SYSTEM LIMITATIONS AND STRUCTURAL EXAMPLES**

| | | |
|---|---|---|
| Maximum number of child devices programmable in a single wireless system | 32 child devices | Child devices do not include the expander modules |
| Maximum number of output child devices programmable in a single translator, wireless conventional expander or expander | 16 output child devices | Sounders, voice annunciators, output modules, beacons, remote indicators, door holders |
| Maximum number of expanders programmable in a single wireless system | 7 expanders | |
| Maximum number of expanders connected sequentially one after another | 5 expanders | |
| Maximum number of expanders connected to a single translator, wireless conventional expander or another expander | 3 expanders | |

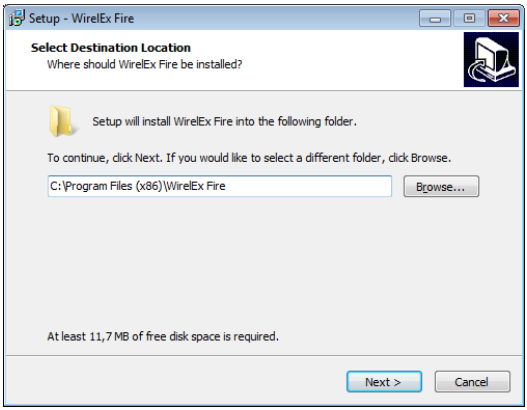


**INSTALLING THE WIRELEX FIRE SOFTWARE**

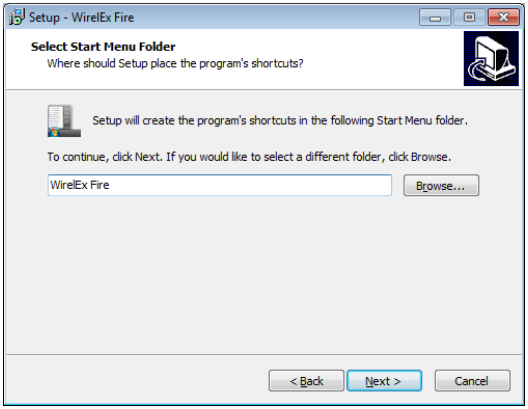
Double click on the **WirelEx Fire** setup executable file.



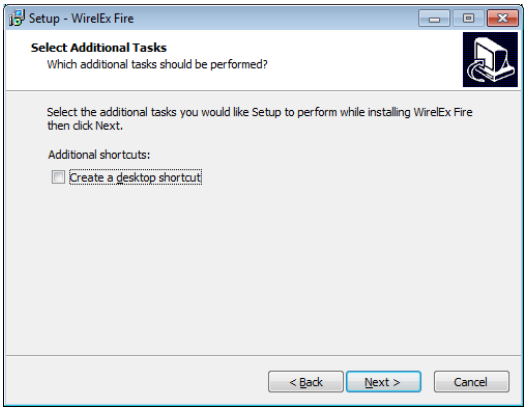

Select language that will be used by the installation procedure.
Click **OK**.




Select the destination folder for the software on the PC or leave the default setting; to change the folder select **Browse...**
**Next >** for proceeding.

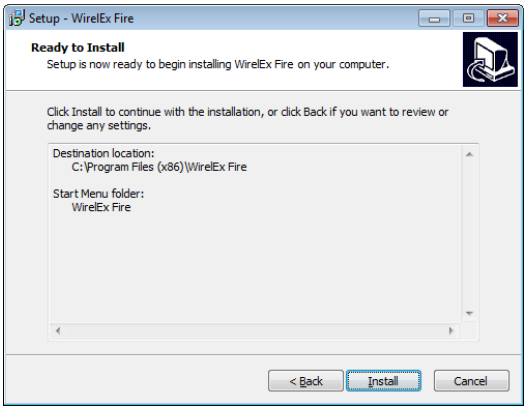



Select a “Start Menu” folder where the shortcut links to the **WirelEx** software will be stored.
With **Browse…** you can select an existing folder or create a new one by editing the text box.
**Next >** for proceeding.

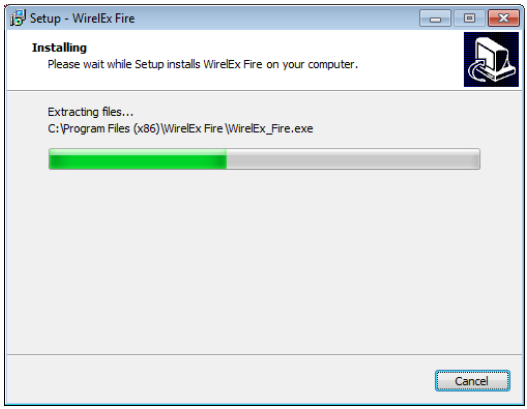



Check the box **Create a desktop shortcut** if you want to create a shortcut link on the desktop window.

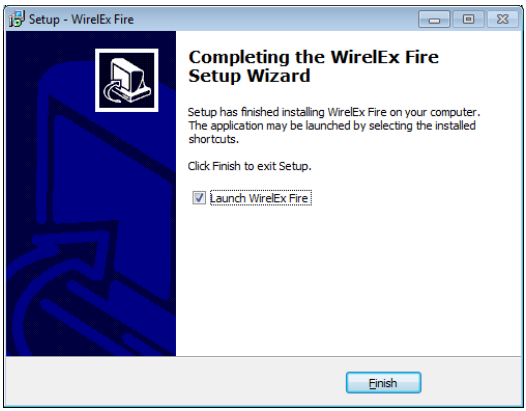
Click **Next >** to proceed.




This window summarizes the choices made before.
Click **Install** to start off the installation phase.




Software installation will normally take up a few moments.
If any problem arises, to eventually stop the installation you can click **Cancel**.



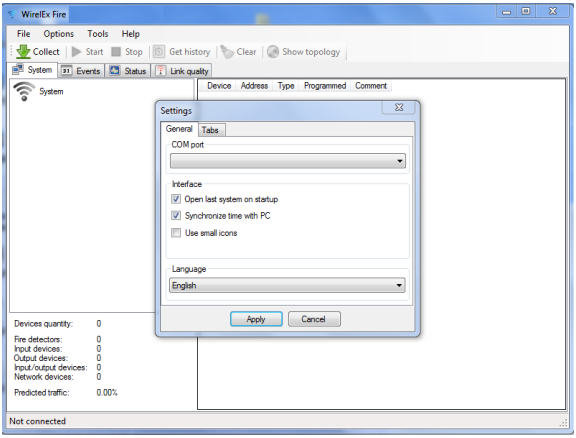

On the setup final window you can check the **Launch WirelEx Fire** option: doing so, when you click **Finish**, you will start immediately the execution of the **WirelEx** software.

If you deselect the **Launch WirelEx Fire** option and then click **Finish**, you can execute the **WirelEx** software successively.

**INITIAL CONFIGURATION**

Connect the computer to the translator with a RS232 serial cable.

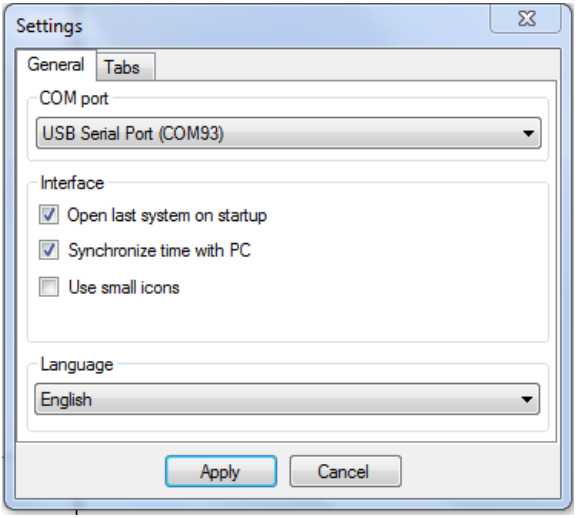
Start the **WirelEx Fire** software by double clicking on the **WirelEx Fire** icon.




Select **Options > Settings** on the main menu.

A **Settings** pop-up window will appear.

Select the **COM port** and **Language** you are using.




In the **Settings** pop-up you can also:

**Open last system on startup**
If checked, loads automatically the last saved system configuration file.

**Synchronize time with PC**
Translator and expander module's time is synchronized with the time of the computer.

**Use small icons**
If checked, the software will use small icons instead of the standard ones.

All **Settings** changes will take place only when the **WirelEx** software will be closed and restarted again.

**LOOKING UP FOR FREE CHANNELS - THE "RFANALYZE" TOOL**

The wireless system will work on a radio channel that you must select during configuration; for this reason it is suggested to:

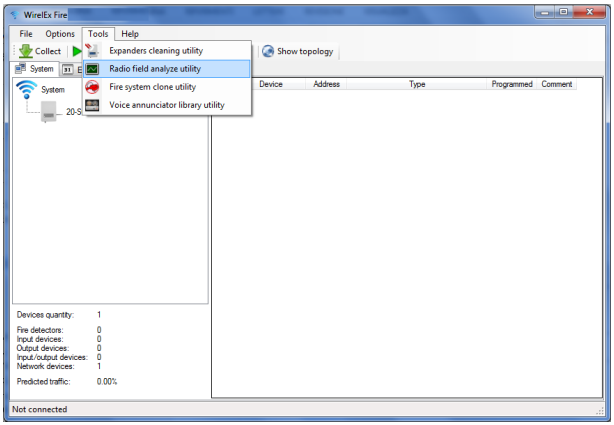
- select a channel that is not used by other wireless systems

or

- select a channel that is not excessively congested.

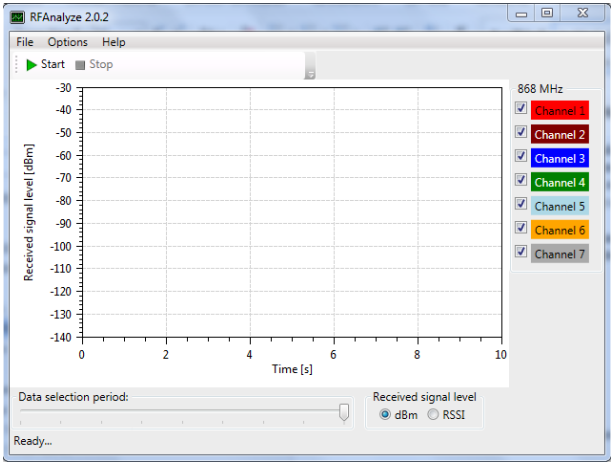
To assess the degree of congestion of a channel use the **RFAnalyze** software.

Connect the computer to a powered translator or expander through the serial cable.

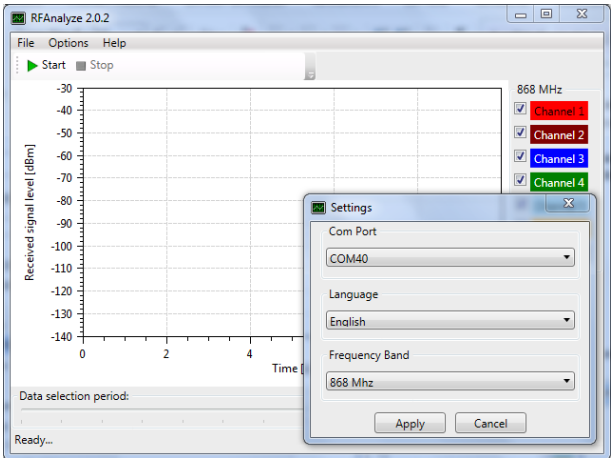



From **WirelEx** select the **Tools > Radio field analyse utility** item from the main menu..

The **RFAnalyze** program will be launched:



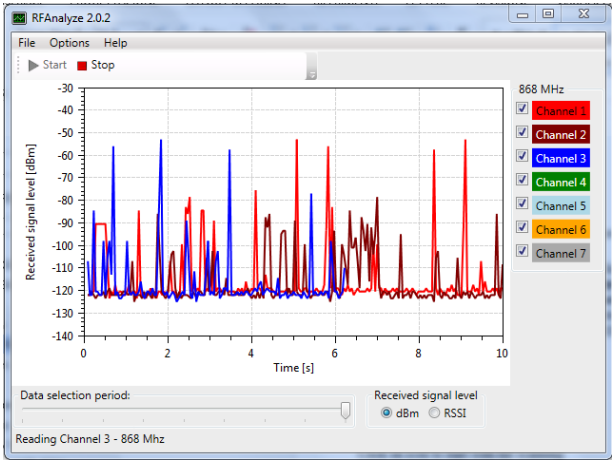
Click the **Options > Settings**. The **Settings** pop-up window will appear:




Select the appropriate COM port (**Com Port**).

Check if **Language** and **Frequency Band** options are appropriately selected.

Click **Apply** to confirm changes, **Cancel** to discard them.

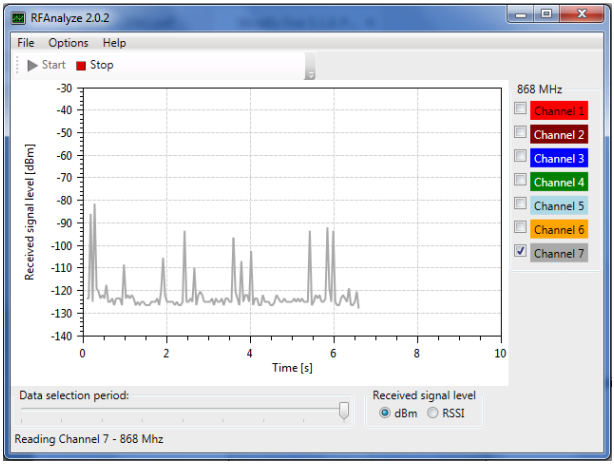



Click the **Start** icon to begin channel congestion scanning.

To stop scanning click the **Stop** icon.

The graphic lines show the degree of wireless congestion on ALL channels.

A single graphic line and its colour is associated to the representation of the wireless traffic congestion on one single channel.

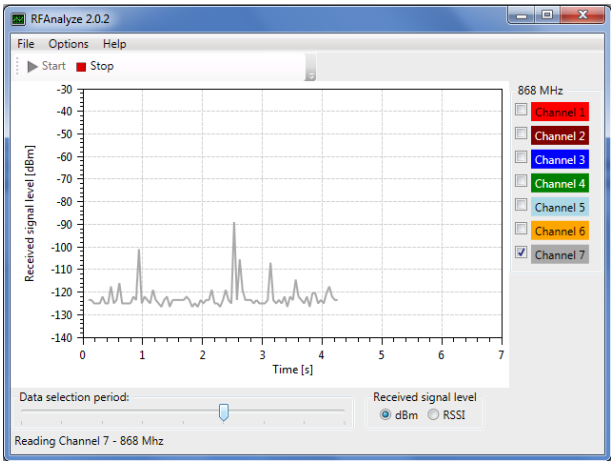



On the right side of the window, uncheck the boxes relating to the channels of which you want to hide the congestion graph.

Keep checked just one single box.

By checking a single channel's congestion graph at a time, assess which one is "flatter" or "less disturbed".

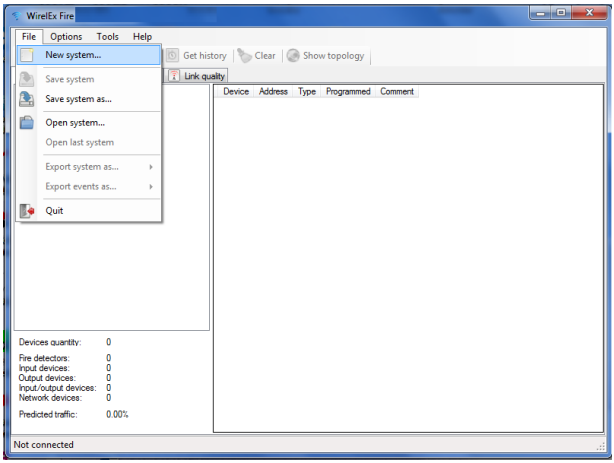
The "flattest" and "less disturbed" channel is the one on which is best for your wireless system to work.




You can change the time scale of the graphic representation by sliding the **Data selection period** cursor located in the bottom area of the screen.

Located in the bottom area of the screen, the **Received signal level** mutually exclusive selection buttons allow you to select whether you want to visualize congestion in dBm or RSSI units.

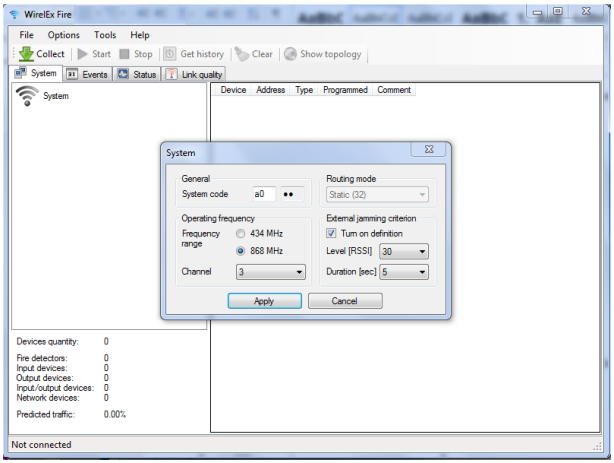
## CREATE A NEW SYSTEM




On the **WirelEx** window select the **File** option on the main menu.

A drop down menu appears.

Select the **New system…** option.




The **System** window will pop-up.

If you need to do so, you can change the **System code**.

You can select here the wireless **Channel**.

**Apply** to confirm, **Cancel** to discard.

### CHANNEL

Communications between wireless devices are exchanged through seven distinct radio channels.
When configuring the wireless system, you must assess which channel is free or less congested and instruct the system to operate on that channel.
The advantage of operating on a free, or relatively free, channel is to have the best communication quality between the wireless devices.

### SYSTEM CODE

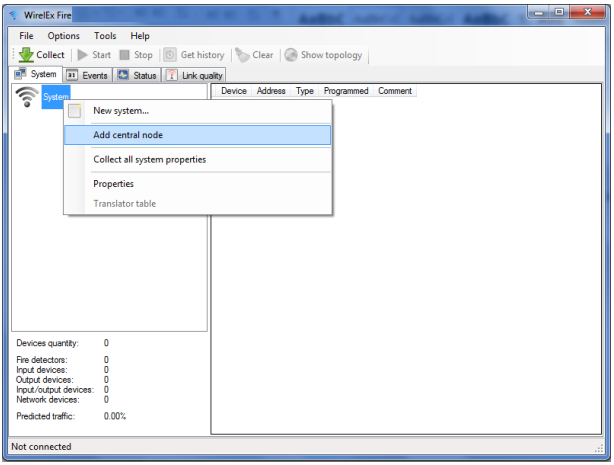
A translator and the wireless devices, directly or indirectly connected to it, constitute a single wireless system “cluster”.

If, in a fire security system, there is more than one translator (so more than one wireless “cluster”), it can happen that at least two or more wireless systems use the same channel.

Every wireless system has a system code.

Its purpose is to distinguish different wireless systems and to avoid communication conflicts.

It is composed by two numbers. The fist number is by default randomly generated by the **WirelEx** software during configuration; you can modify this number if it is necessary for you to do so.
The second number is randomly automatically generated by the **WirelEx** too, but you cannot change it.

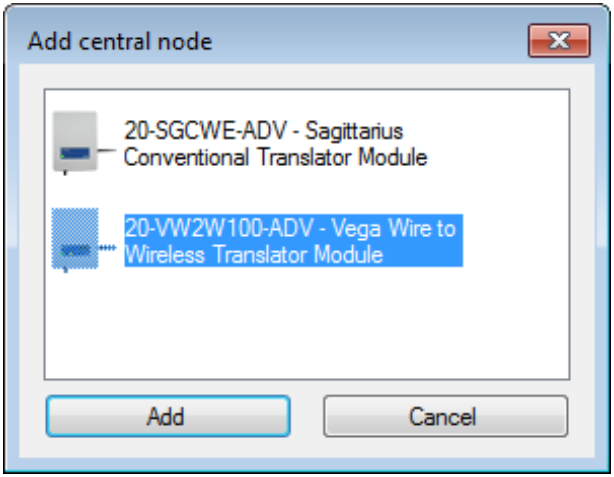



If it has not been already done, select the **System** tab.

Right click on the **System** icon, located in the upper left area of the tab page.

A pop-up menu appears.

Select the **Add central node** option.



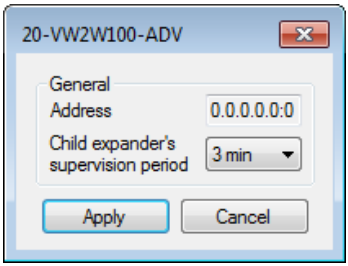

The **Add central node** pop-up window appears.

Choose one of the selectable central node type options presented in the pop-up window.

**Add** button to set the desired central node type in the new system.
**Cancel** to give up.

A wireless system “cluster” can have only one central node.

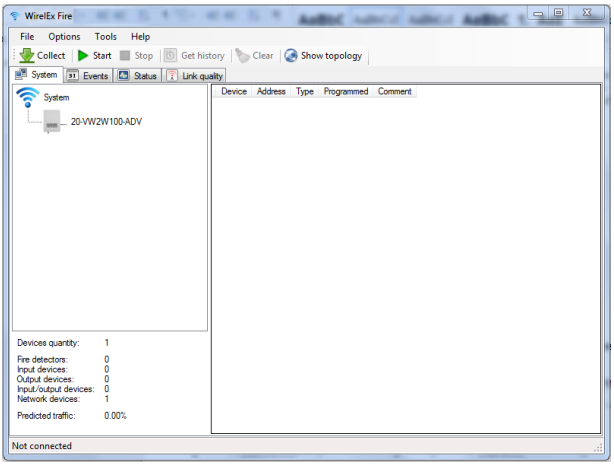
Added the central node, a property window will pop-up; let's assume you have added a translator:




Here you can set the **Child expander's supervision period** value.

If the translator does not receive at least a communication from one of its expanders in this specified amount of time, "assumes" that the communication with it is lost: a fault condition is then signalled to the control panel.

**Apply** to confirm, **Cancel** to discard the setting.




A translator icon now appears in the wireless system's topology tree.

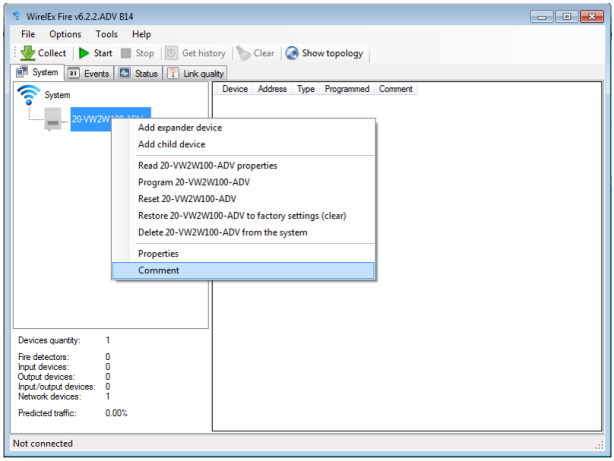
Note that the translator's product code at the right of the icon is printed out with a normal non-bold font; this means that the translator need programming in order to make effective the last change made.

Connect the serial cable (if you have not done so before).

Right click on the translator icon.

On the pop-up menu click on the **Program** menu item.

You can add your comments (like a device location in the site, "Detector #1"...) to the system's software configuration.

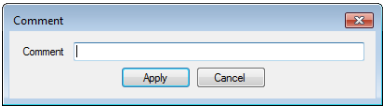



Right click on the device icon.

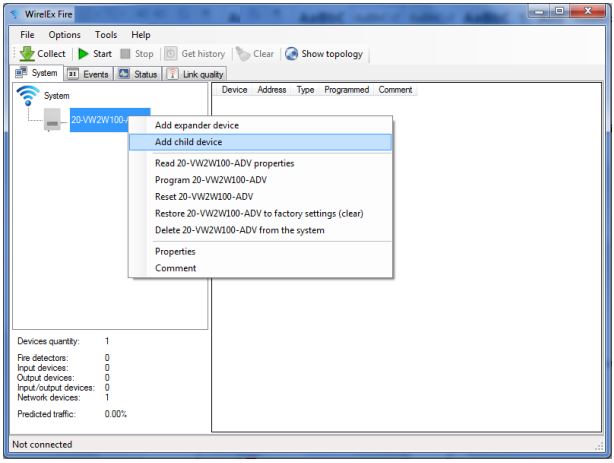
On the pop-up menu select the **Comment** option.

A **Comment** pop-up will appear; you can type in a 31 alphanumeric characters maximum comment.

**Apply** to confirm, **Cancel** to discard.



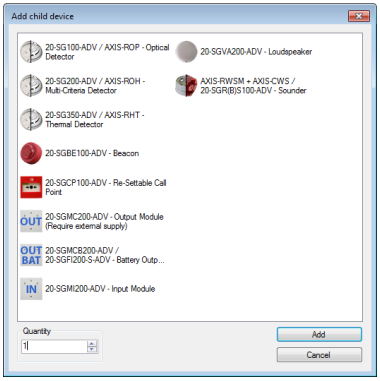
**ADD THE CHILD DEVICES**




Right click on the translator's icon.

Select **Add child device** on the pop-up menu.

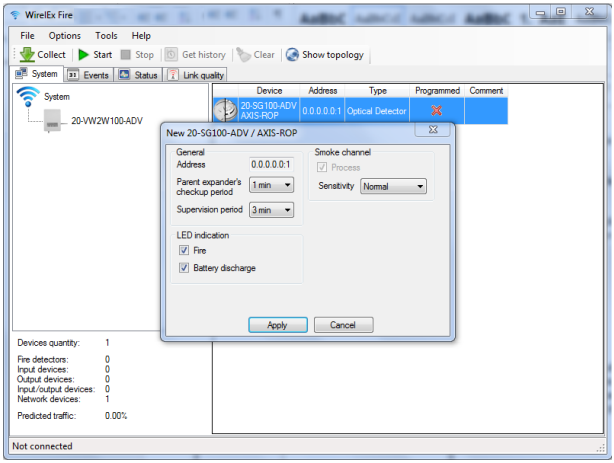
A pop-up window with the list of all child devices will appear:




Click on the child device icon required.

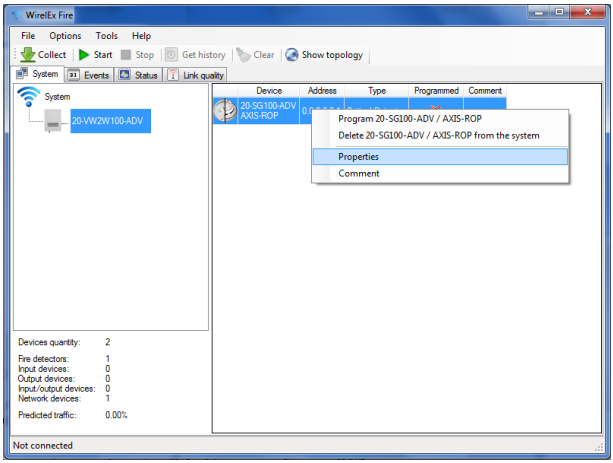
**Quantity** field: set the required numeric quantity of the selected child device.

Click **Add** to confirm, **Cancel** to discard.




A window pop-ups, allowing you to set the child device's operating parameters.

If in the previous window you specified a **Quantity** greater than one, you will notice that the **Address** field refers to the wireless address of only the first device; despite of this, the parameter changes you make in this window will be applied to ALL the new child devices.




If you intend, successively, to change a child device's operational parameters:

Right click on the child device's icon.

Select **Properties** on the pop-up menu.

You need now to program the translator, otherwise the changes you have made will not be effective.

On the system's topology tree, remember:

20-VW2W100-ADV (normal font) = NOT programmed
**20-VW2W100-ADV** (**bold** font) = programmed.

This applies to ALL central nodes and expanders.

If you want to see the child devices assigned to a central node or an expander, click on its icon on the system's topology tree; its child devices will be shown in a row-column list at the right of the screen.

The graphic indication in the **Programmed** column in the child devices list can be:

= Chid device linked (programmed)

= Child device not linked (not programmed)

= Child device linked but in need of update (explained later)

Child devices linking (and programming) will be explained later.

The wireless system will work properly only if:

- All central nodes and expanders are programmed
- All child devices are linked (programmed).

## ACCESSING AND CHANGING CHILD DEVICES' PROPERTIES

On the child device's list, right click on the line you are interested in.

A pop-up menus appears.

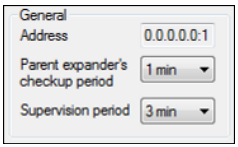
Click on the **Properties** menu option.

Change the desired properties.

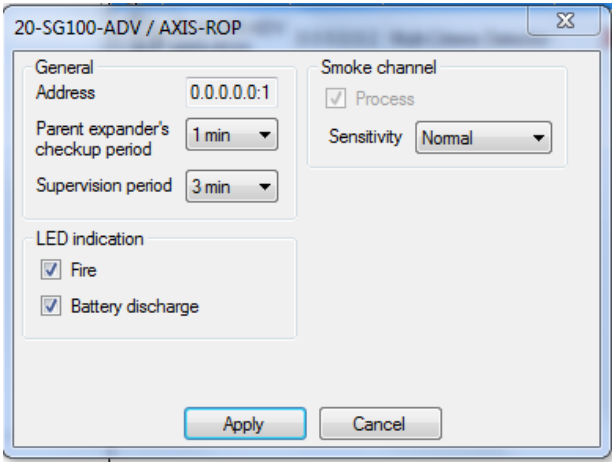
Program the child device with the link procedure explained later; if you omit to do so, your changes will not be effective on the real system.

## CHILD DEVICES' COMMON WIRELESS SETTINGS

Child devices have all in common those three parameters:




| | |
|---|---|
| **General Address** | wireless address; assigned by the software automatically; you cannot change it. |
| **Parent expander's check-up period** | indicates how often the child device reports its data to his father translator or expander.<br>Battery life and wireless traffic strongly depend on this parameter; do not change it from its default setting if it is not really necessary. |
| **Supervision period** | if the chid device does not report its data in this period of time, the father translator or expander will signal a fault ("no link" fault). |

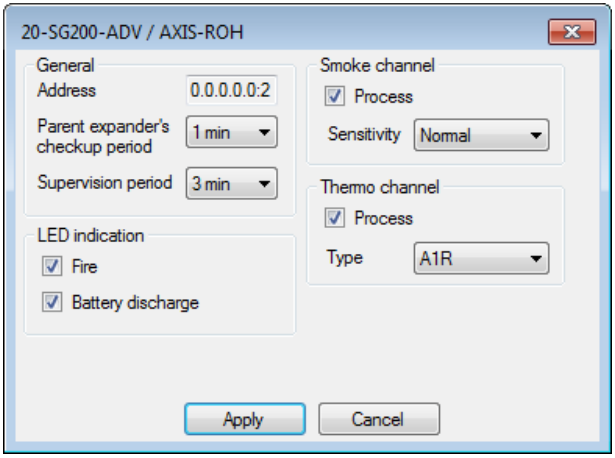



**20-SG100-AVD / AXIS-ROP**
**OPTICAL DETECTOR**

The desired smoke sensitivity level can be selected with the **Sensitivity** drop down list.

LED indications for fire and battery discharge events can be disabled unchecking the **Fire** and **Battery Discharge** checkboxes.

**Apply** to confirm, **Cancel** to discard.



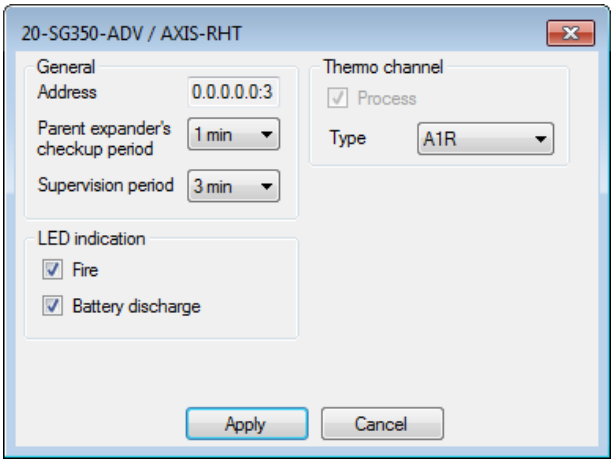

**20-SG200-ADV / AXIS-ROH**
**MULTI-CRITERIA DETECTOR**

The desired smoke sensitivity level and thermal class can be selected with the **Sensitivity** and **Type** drop down lists.

You can disable the smoke alarm criteria or the thermal alarm criteria by unchecking the **Process** (**Smoke channel**) checkbox or the **Process** (**Thermo channel**) checkbox; you cannot uncheck both boxes.

LED indications for fire and battery discharge events can be disabled unchecking the **Fire** and **Battery Discharge** checkboxes.

**Apply** to confirm, **Cancel** to discard.

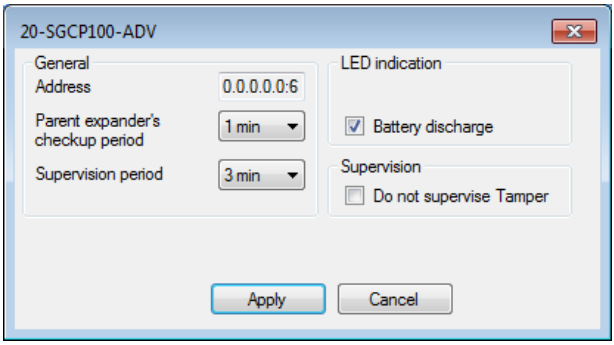



**20-SG350-ADV / AXIS-RHT**
**THERMAL DETECTOR**

The desired thermal class can be selected with the **Type** drop down list.

LED indications for fire and battery discharge events can be disabled unchecking the **Fire** and **Battery Discharge** checkboxes.

**Apply** to confirm, **Cancel** to discard.

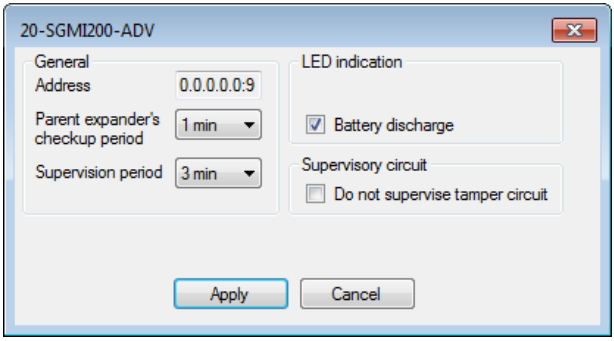



**20-SGCP100-ADV**
**RESETTABLE CALL POINT**

LED indication for battery discharge events can be disabled by unchecking the **Battery discharge** check-box.

You can disable the tamper spring sensor by checking the **Do not supervise Tamper** check box.

**Apply** to confirm, **Cancel** to discard.

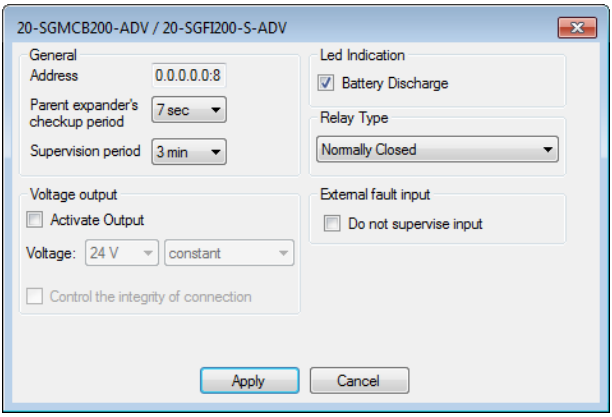



**20-SGMI200-ADV**
**INPUT MODULE**

LED indications for battery discharge events can be disabled by unchecking the **Battery discharge** check-box.

You can disable the tamper spring sensor by checking the **Do not supervise tamper circuit** check box.

**Apply** to confirm, **Cancel** to discard.




**20-SGMCB200-ADV / 20-SGFI200-S-ADV**
**BATTERY OUTPUT MODULE**

You use this window to set the properties of more than one device type.

If configuring the **20-SGMCB200-ADV**, LED indications for battery discharge events can be disabled by unchecking the **Battery discharge** checkbox.

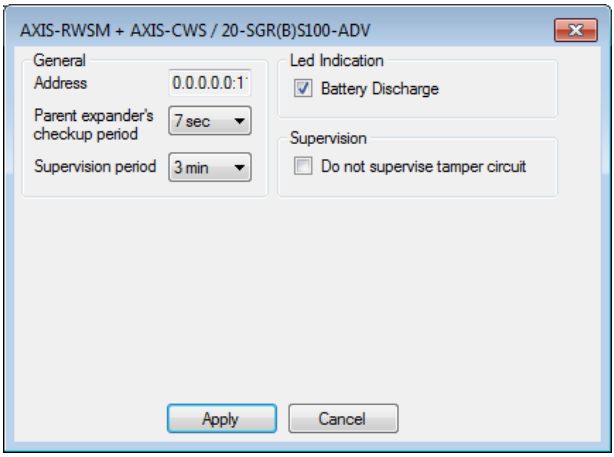
You can select the action type performed by the activated relay output through the **Relay Type** drop down list.

You can activate the 12/24VDC output by checking the **Activate Output** box, then selecting its **Voltage** characteristic profile; through the **Control the integrity of connection** check box you can enable the supervision of the 12/24 VDC output.

By checking the **Do not supervise input** box, you instruct the module to ignore tamper and FLT faults.

If you are configuring the **20-SGFI200-S-ADV** and **SGDH100** devices, only the **General** (common to all devices) and the **Battery Discharge** options will be effective.

**Apply** to confirm, **Cancel** to discard.

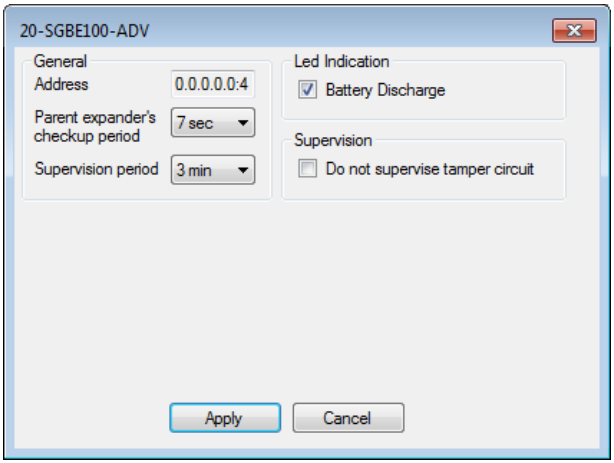



**AXIS-RWSM+AXIS-CWS / 20-SGR(B)S100-ADV**
**SOUNDER**

LED indication for battery discharge events can be disabled unchecking the **Battery Discharge** checkboxes.

You can disable the tamper spring sensor by checking the **Do not supervise tamper circuit** check box.

**Apply** to confirm, **Cancel** to discard.

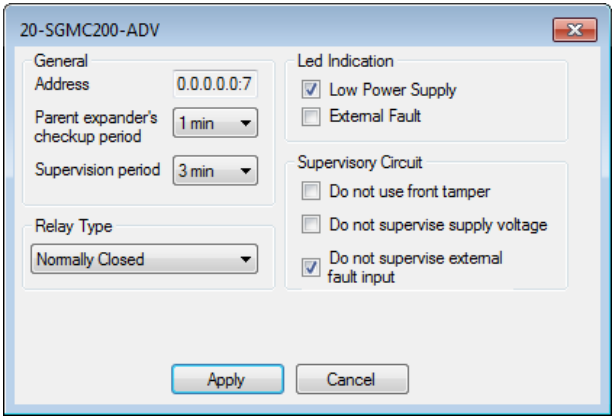



**20-SGBE100-ADV**
**BEACON**

LED indications for battery discharge events can be disabled by unchecking the **Battery discharge** check-box.

You can disable the tamper spring sensor by checking the **Do not supervise tamper circuit** check box.

**Apply** to confirm, **Cancel** to discard.




**20-SGMC200-ADV**
**OUTPUT MODULE**

**Low Power Supply**
Uncheck this box to disable LED indication when the module's supply voltage falls under the minimum level.

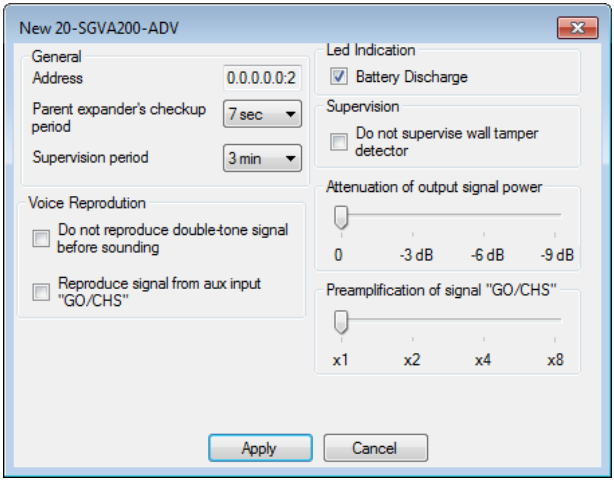
**External Fault**
Check this box to enable LED indication in the event of a fault detection on the FLT input.

**Do not use front tamper**
Check this box to disable the tamper spring sensor.

**Do not supervise supply voltage**
Check this box to disable the supervision of the module's supply voltage.

**Do not supervise external fault input**
Uncheck this box to enable the supervision of faults on the FLT input.

**Relay Type**
You can select the action type performed by the activated relay output through this drop down list.




**20-SGVA200-ADV**
**LOUDSPEAKER**

LED indication for battery discharge events can be disabled by unchecking the **Battery Discharge** check box.

You can disable the wall tamper spring sensor by checking the **Do not supervise wall tamper detector** check box.

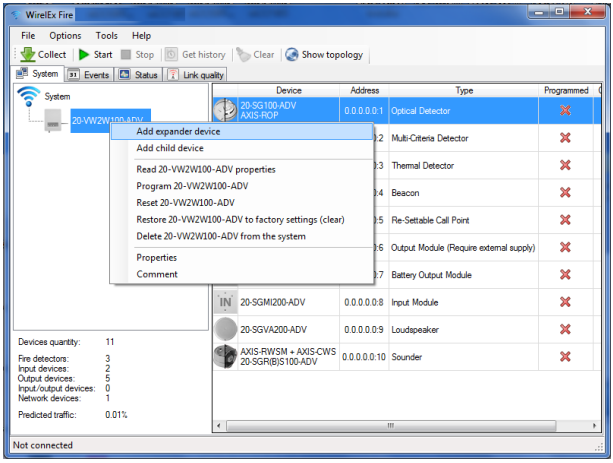
Loudspeaker's output signal is set to maximum power by default; you can attenuate it up to –9 dB by sliding the **Attenuation of output signal power** cursor.

The alert double tone signal preceding the alarm voice message can be disabled by checking the **Do not reproduce double-tone signal before sounding** box.

**Reproduce signal from aux input "GO/CHS"** and **Preamplification of signal "GO/CHS"** options are not used.

**Apply** to confirm, **Cancel** to discard.

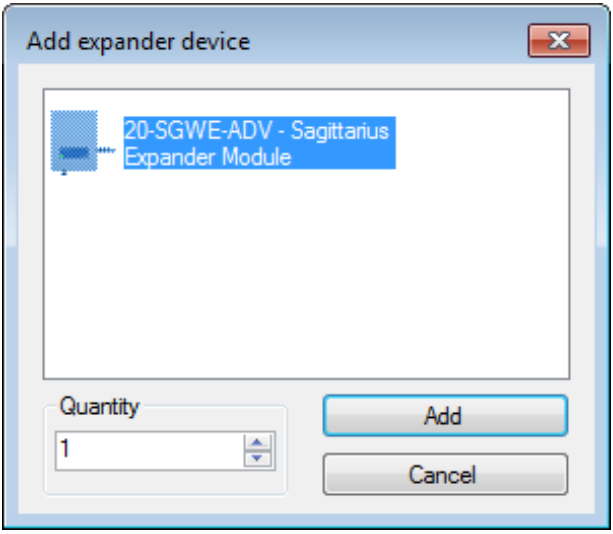
## ADD THE EXPANDER DEVICES




Right click on the translator icon.

A pop-up menu appears.

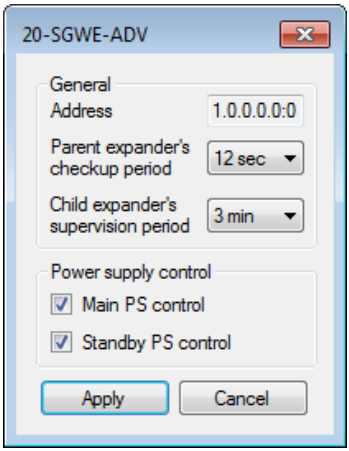
Select the **Add expander device** menu option.




The **Add expander device** window appears.

Select the device **Quantity** you require for the installation.

Press **Add**.




An expander property window appears.

If in the previous window you have selected a **Quantity** of expanders to add greater than one, you will notice that the **Address** field of this properties window indicates the wireless address of the first expander; despite of this, the properties you set here will be applied to ALL expanders you add to the wireless system.

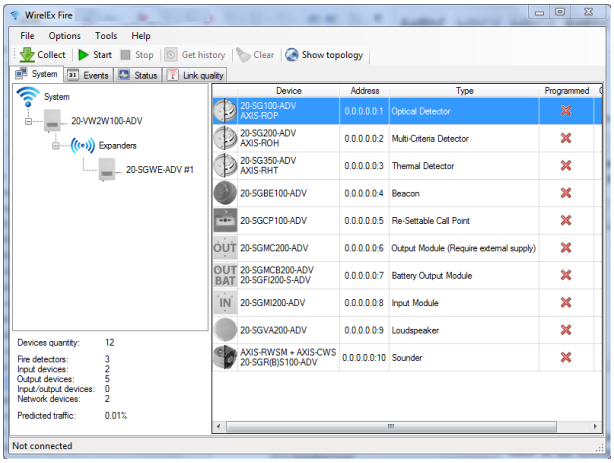
Remember that you can visualize again this window for a single expander by right clicking on the required expander icon.

**Parent expander's checkup period**
This drop down list indicates how often this expander reports its status to the "father" translator or expander.
Wireless traffic strongly depend on this parameter; do not change it from its default setting if it is not really necessary.

**Chid expander's supervision period**
If the "father" translator or expander device does not receive a status report from this expander in this specified period of time, the "father" device signals a "no link" fault.

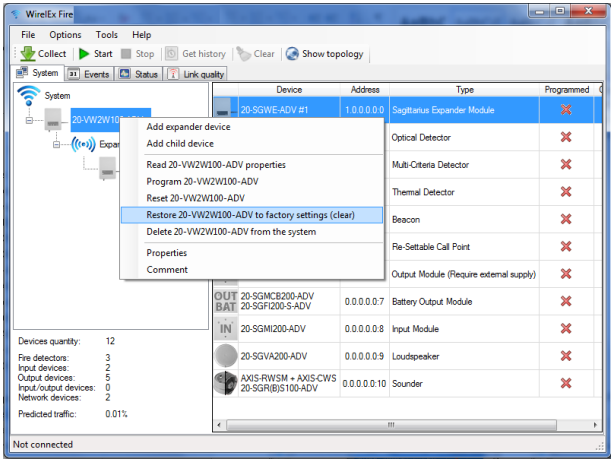
**Main PS control**
Uncheck this box to disable the main power supply supervision; if you disable this and if the power supply voltage falls under the specified minimum level, this expander will signal a fault.

**Standby PS control**
Uncheck this box to disable backup power supply supervision; if you disable this and if the power supply voltage falls under the specified minimum level, this expander will signal a fault.




The procedure for adding and managing the child devices that are assigned to an expander is identical to the one that is used for the translator module; the only difference is that it is applied to the specific expander icon and not to the translator icon.

**PROGRAM THE SYSTEM**




Configuration is now complete, at least on the computer.

Now the configuration need to be programmed on the wireless system.

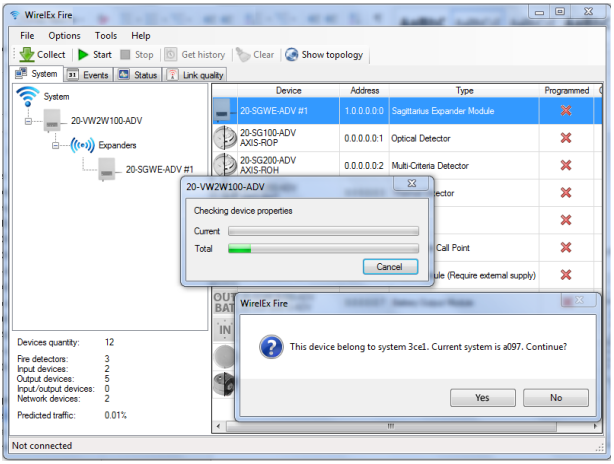
If you are deploying a brand new installation:

Right click on the translator icon.

Contextual pop-up menu appears.

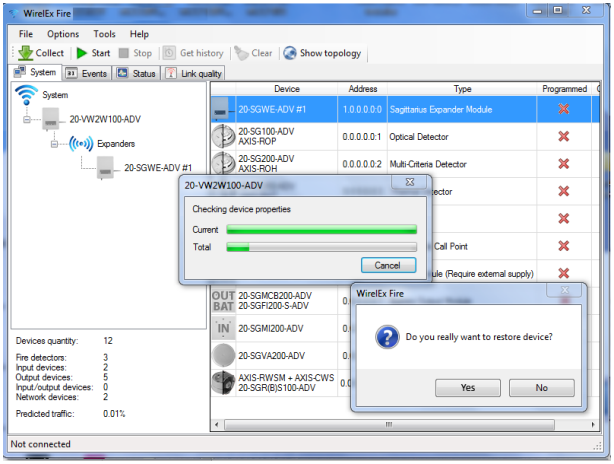
Click the **Restore 20-VW2W100-ADV to factory setting (clear)** menu option.

If you execute **Restore 20-VW2W100-ADV to factory setting (clear)** and you have in the configured system child devices that have been already linked and programmed, you must successively relink and reprogram ALL child devices again.



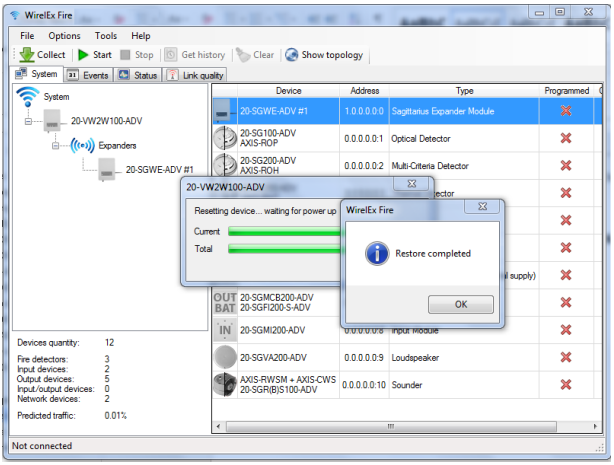

A pop-up window will show the translator's old system code.

Click **Yes** to continue; **No** to give up.



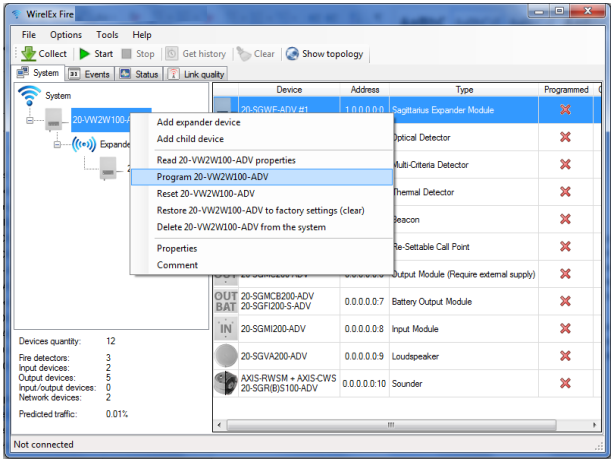

You will be asked for a confirmation of this operation.

Click **Yes** to continue; **No** to give up.




When the **Restore 20-VW2W100-ADV to factory setting (clear)** operation has been completed, an information window pops-up.

Click **OK**.

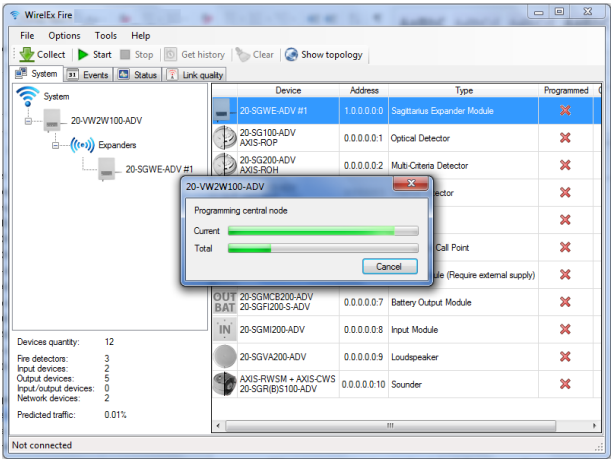



Right click on the translator icon.

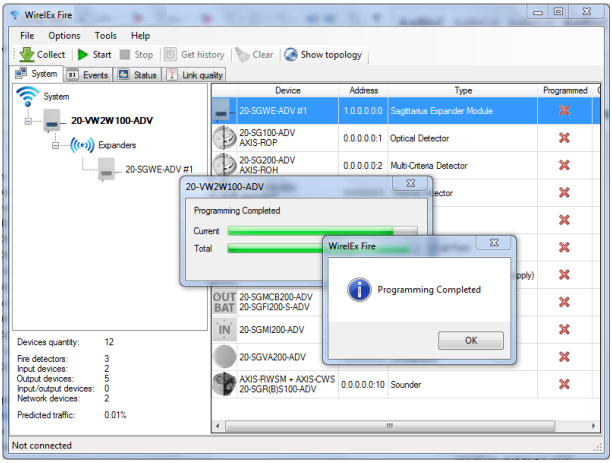
Contextual pop-up menu appears.

Click on the **Program 20-VW2W100-ADV** menu option.

The **Program** command can be applied to update a translator, to program or update an expander.
Same procedure applies.
To program an expander right click on the expander icon and choose the **Program 20-SGWE100-ADV**.

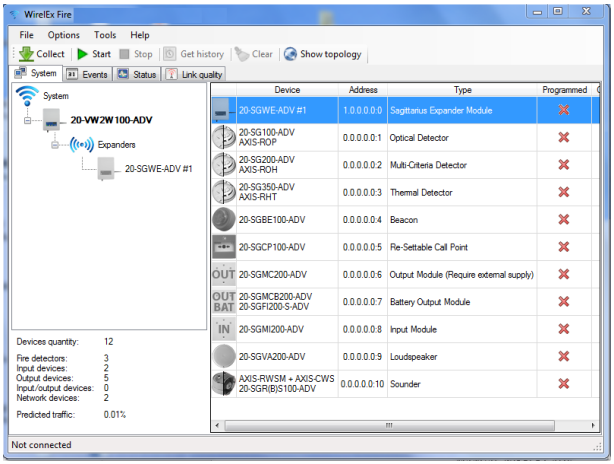



A programming progress window pops-up.




Programming completion pops-up a confirmation window.

**OK** to continue.




The translator's product code is now printed out in bold.

This means that it has been programmed.

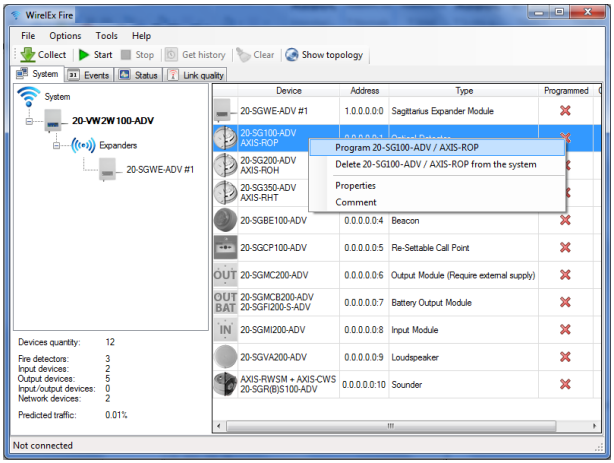
Repeat the restore to factory settings - programming procedure for ALL expanders.

Every time you program the translator, a "**LOEr**" indication is visualized on the device's digital display.
**LOEr** means: you have programmed the wireless configuration on the translator, now you must load the devices' references onto the loop analogue interface.

"**LOEr**" handling is explained later in the "**The load procedure**" paragraph.

It does not apply to the **20-SGCWE-ADV** central node.

## PROGRAM THE CHILD DEVICES



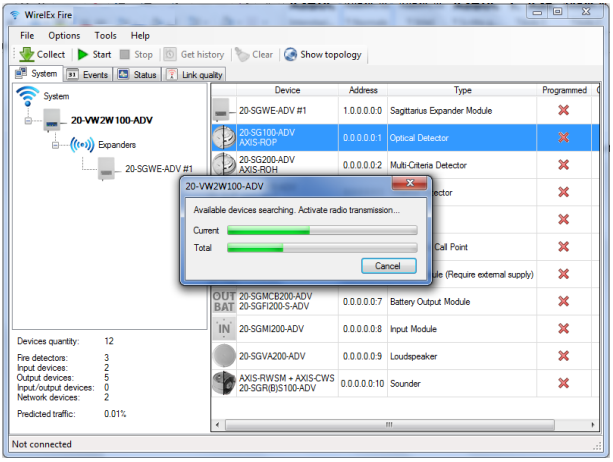

Connect your computer to the “father” translator or expander of the child device you want to link - program.

On the **System** tab page, click on the relevant translator or expander icon.

Right click over the relevant child device icon.

Contextual menu pops up.

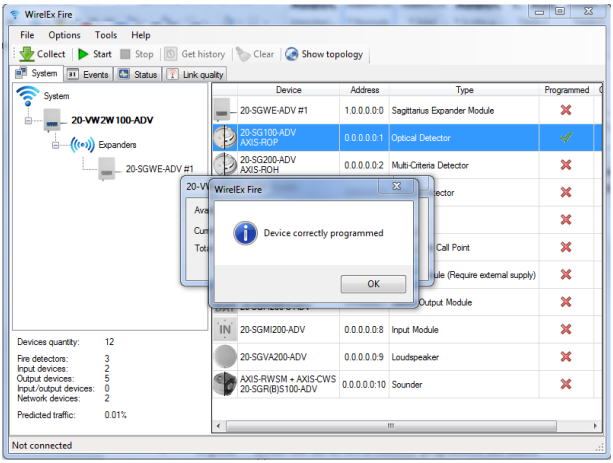
Click on the **Program [device code]** command.




A window will pop up, indicating that the translator or expander is looking for the device to be linked.

Make sure that the programming switch of the child device is switched to “**ON**”.
Insert the secondary, then the primary battery into the child device.
The child device’s LED flashes red; this indicates that the device is starting up.
When flashing comes to an end, place the child device near the translator or expander and set the programming switch to “**1**”.

Child device’s linking and programming starts.




Child device’s LED flashes green: linking - programming is complete.
On **WirelEx**, a window pops up informing you that the device is correctly programmed.

Click **OK**.

Repeat this procedure for all the other child devices.

The programming status of the child device is shown in the **Programmed** column:

= Chid device linked (programmed)

= Child device not linked (not programmed)

The wireless system **is** completely programmed only when:

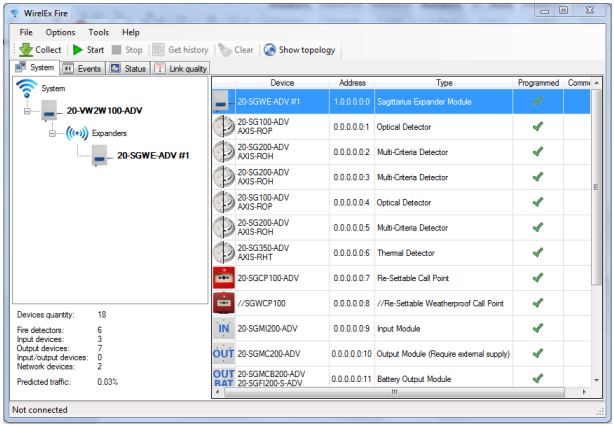
- all child devices indicate the green programmed check in the **Programmed** column
- all translator and expander's product names are written in bold.

The wireless system **is not** completely programmed when:

- at least a child device indicates a red non programmed X in the **Programmed** column
- at least one product name of a translator or expander is not written out in bold.

If you fail to program completely the wireless system:

- the system will not work correctly
- panel could be unable to show faults.




A warning window appears if **WirelEx** is closed with one or more not programmed devices.

After you have performed any change to the wireless system configuration:

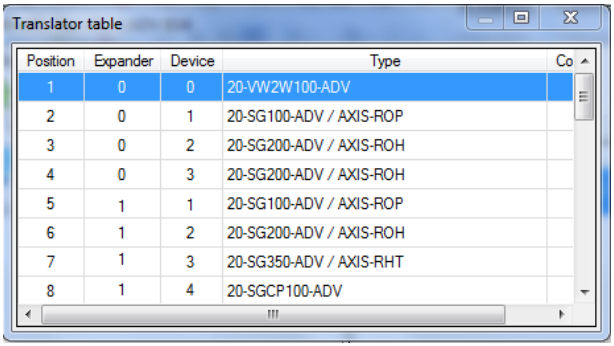
- check the wireless configuration again
- check control panel's configuration.

**THE TRANSLATOR TABLE**

The child devices configured in a wireless system are organized in a sequential list.

This list is the translator table. It is stored in the translator and updated when the translator is programmed.

In **WirelEx** you can visualize it in the **Translator table** window:




in the **System** tab page, right click on the **System** icon.

Contextual menu pops up.

Select the **Translator table** option.

**Translator table** window appears.

The translator table has 33 lines; each line is indexed in the **Position** column from 1 to 33.
The translator is always placed at **Position** 1.
Child devices have the **Position** indexed from 2 to 33.
Wireless expanders modules are never indicated in the list.

The translator's front board keypad-display **List** function uses the **Position** index to locate the translator and the child devices; check the **20-VW2W100-ADV** manual for better details.

When you perform the load procedure (see **The load procedure** paragraph), starting from the translator table a set of virtual analogue loop addresses are generated and stored in the wired analogue loop interface; this address table is then used in the communication process with the wired control panel.

The translator and child device's sequence in the translator table corresponds exactly to the translator and child device's sequence of analogue addresses in the loop interface.

To make things clearer, suppose you have, for example:

Translator table

| | |
|---|---|
| Translator | **Position**: 1 |
| Device #1 | **Position**: 2 |
| Device #2 | **Position**: 3 |
| Device #3 | **Position**: 4 |

Translator analogue (start) loop address: 10

Analogue loop address table

| | | |
|---|---|---|
| Translator | Analogue address: | 10 + (1 - 1) = **10** |
| Device #1 | Analogue address: | 10 + (2 - 1) = **11** |
| Device #2 | Analogue address: | 10 + (3 - 1) = **12** |
| Device #3 | Analogue address: | 10 + (4 - 1) = **13** |

The translator table is viewed in **WirelEx** with the following data columns:

**Position**
The position in the translator table. Values span from 1 to 33.

**Expander**
The translator or expander number to which the child device is linked to. 0 is for the translator, expanders values span from 1 to 7.

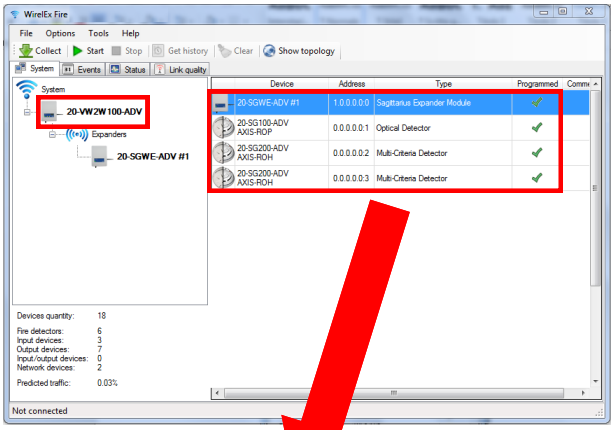
**Device**
Device number. It is translator or expander's specific. Values range from 1 to 32.

**Type**
Indicates the translator's or child device's product code.

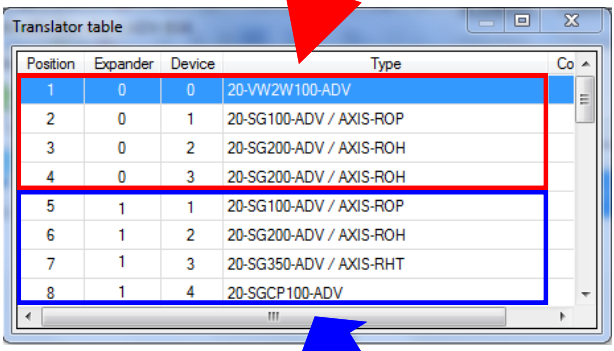
**Comment**
The note that you eventually assigned to the child device.

## THE TRANSLATOR TABLE - A PRACTICAL EXAMPLE

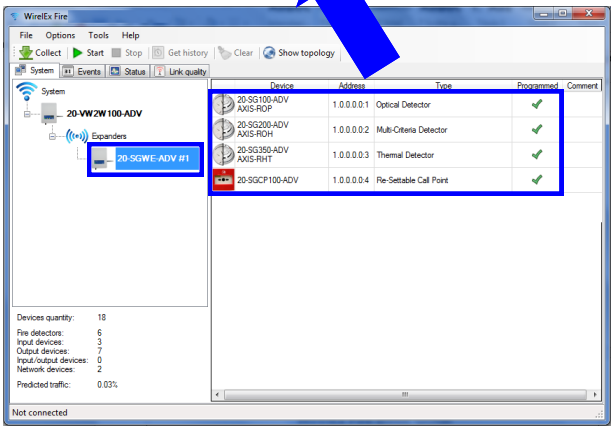
This is an example of a wireless system configuration - translator table correspondence:




Wireless devices linked to the translator.




The **Translator table** window.




Wireless devices linked to the expander.

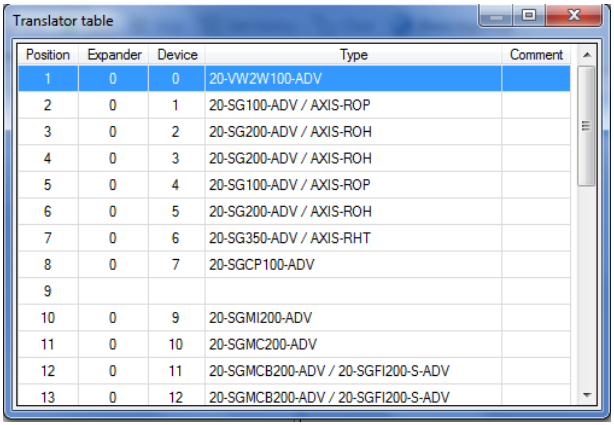
**THE TRANSLATOR TABLE - HANDLING GAPS**

When you delete one or more devices, empty lines, or gaps, remain in the translator table's list.

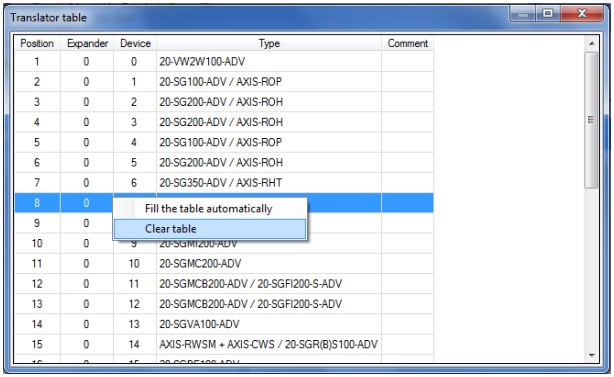
You can handle those gaps in two ways:

- add other wireless child devices; empty gaps will be filled up again by the newly added devices; this solution is not always applicable.

- use the **Clear table** and **Fill the table automatically** commands.



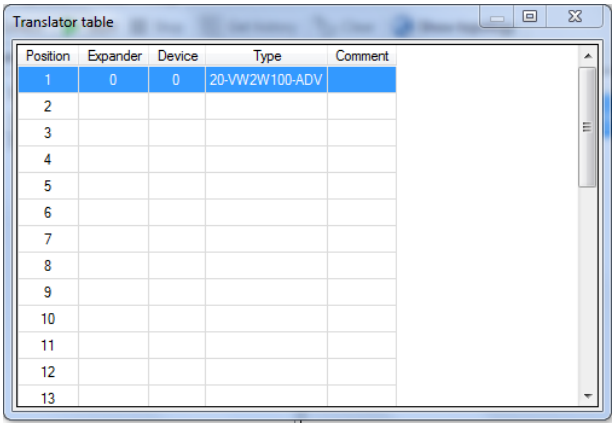

Suppose you have, for example, this **Translator table**.



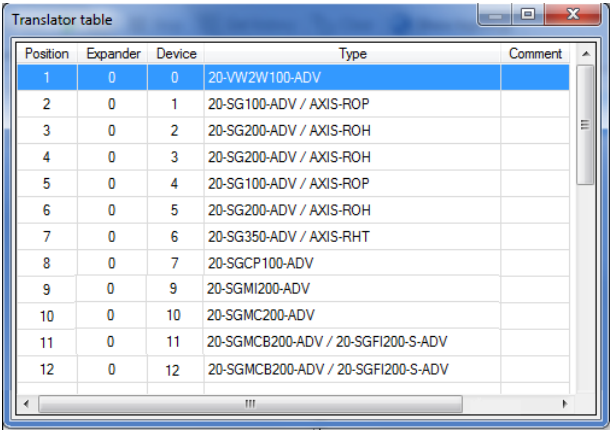

Right click on the table's window.

A contextual menu pops up.

Click **Clear table**.




All child devices, with the exception of the translator, are deleted.




Right click on the table's window.

A contextual menu pops up.

Click **Fill the table automatically**.

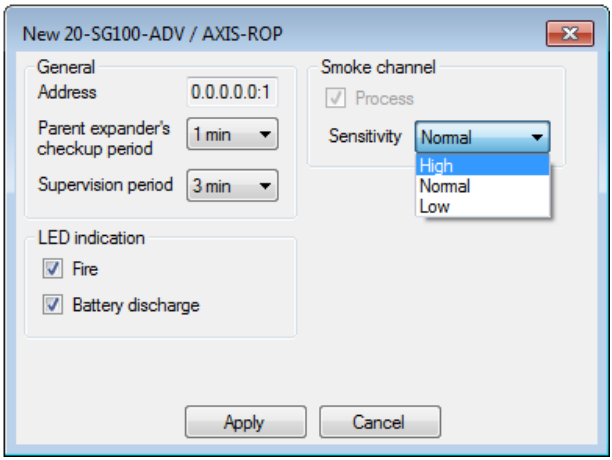
The translator table will not have gaps anymore.

## UPDATING THE CHILD DEVICES

For the child devices that you have already linked and programmed to the wireless system, you can, if needed, update some, but not all, settings. The recommendation is that set in the correct parameters in the first place, before actually linking and programming the child devices; nevertheless, in certain circumstances, it could be necessary to perform an update.

List of parameters that can be updated without linking and programming again a child device:

| | |
|---|---|
| All child devices | **Parent expander's check-up period**<br>**Supervision period** |
| Optical detectors | **Sensitivity** |
| Multi-criteria detectors | **Sensitivity** |
| Manual call points | **Do not supervise Tamper** |
| Input modules | **Do not supervise tamper circuit** |
| Battery output modules | **Relay Type** |
| Sounders | **Do not supervise tamper circuit** |



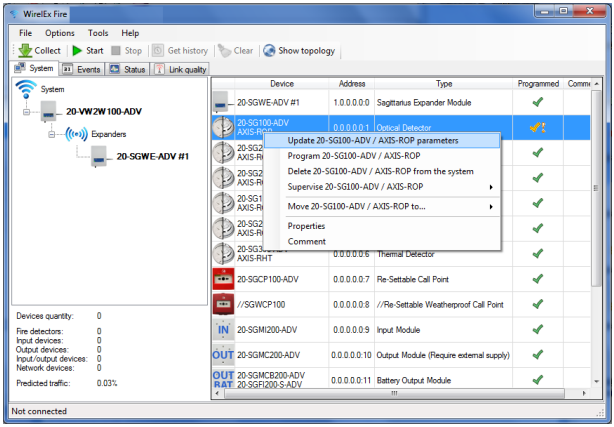

Right click on the child device's icon.

Contextual menu pops up.

Click the **Properties** option.

Modify the required parameter.

**Apply** to confirm, **Cancel** to discard the change.



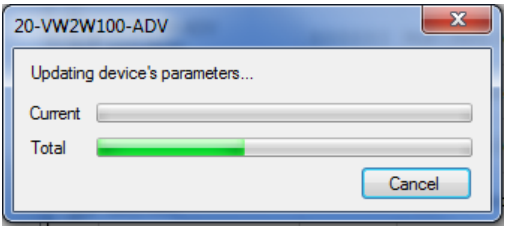

If the modified parameter is updatable, the visualized icon in the **Programmed** column for the specific child device will be:

Right click on the child device's icon.

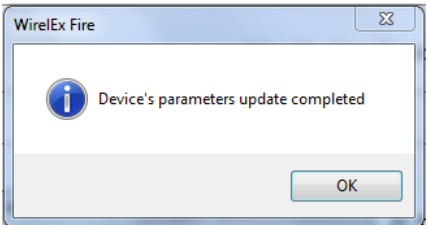
Contextual menu pops up.

Click the **Update [device code] parameters** option.

If an is shown instead, the child device has to be linked and programmed again.




Parameter update can take up some minutes.



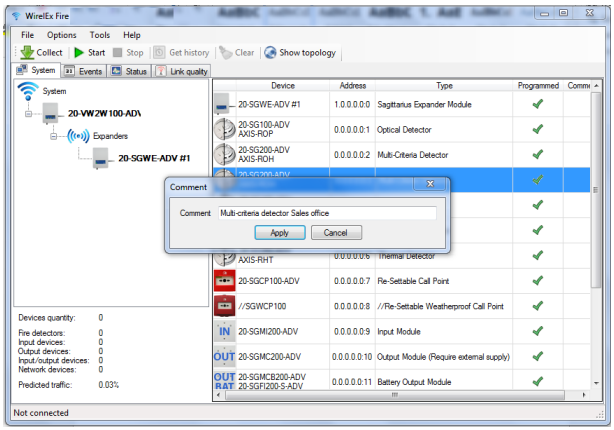

Update completion pops-up a confirmation window.

**OK** to continue.

## ADDITIONAL FUNCTIONS OF THE SYSTEM CONFIGURATION TAB PAGE

The pop up menu, that results from the right click on the wireless devices icons, gives you some additional options:

### COMMENTS




You can assign a comment text to each wireless device, like its location in the installation site.

Right click on the device's icon.

Contextual menu pops up.

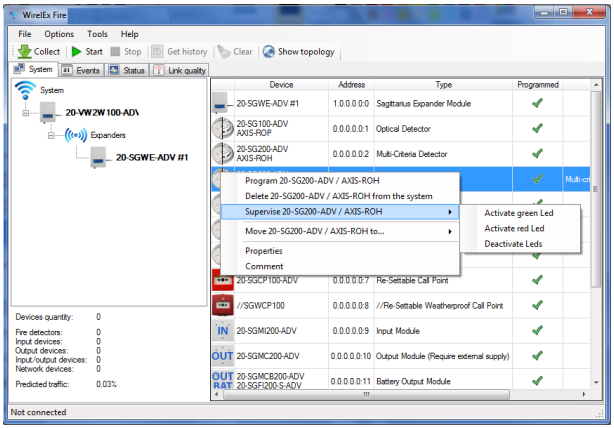
Select **Comment**.

**Comment** window pops up.

You can enter up to 31 alphanumeric characters.

**Apply** to confirm, **Cancel** to discard the change.

### DEVICE SUPERVISION




You can switch on or off the LED indicators of the child devices.

Right click on the child device's icon.

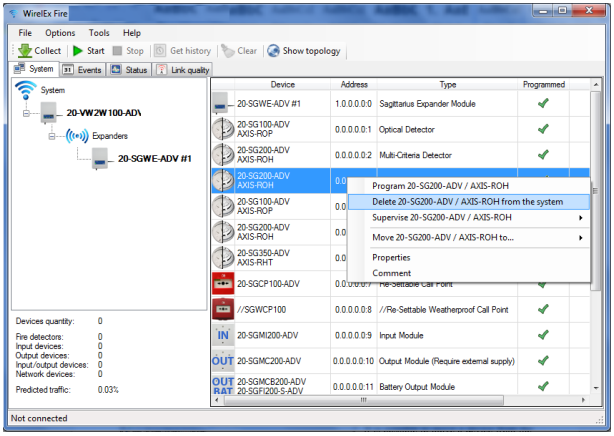
Contextual menu pops up.

Select **Supervise [device's product code]**.

Select **Activate green Led**, **Activate red Led** or **Deactivate Leds**.

> On **AXIS-ROP**, **AXIS-ROH** and **AXIS-RHT** the **Activate green Led** option activates the test mode, while the **Deactivate Leds** option deactivates it.
>
> Check these detectors manuals for more data about it.
>
> **Remember to deactivate all detector's LEDs after you have carried out all the device's alarm testing**.

## DELETE DEVICE




You can delete a wireless device from the configuration.

Right click on the device's icon.

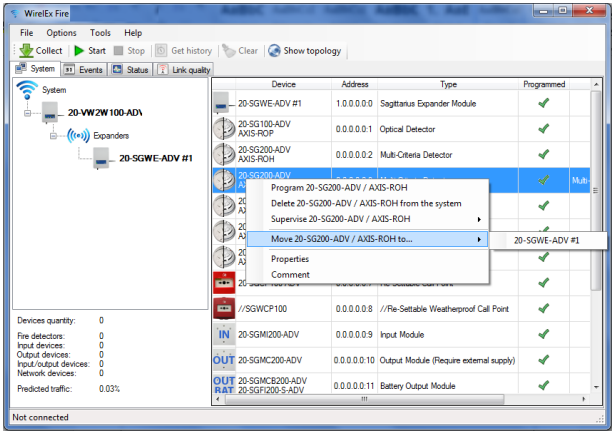
Contextual menu pops up.

Click on the **Delete [device's product code]**.

If you delete a child device from an expander, you must program the expander AND the translator.

If you delete a child device from the translator, just program the translator.

## MOVE DEVICE




You can move a child device:

- from the translator to an expander
- from an expander to the translator
- from an expander to another expander.

Right click on the child device's icon.

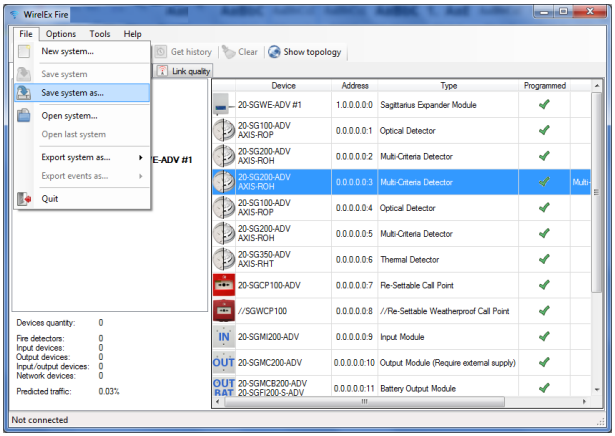
Click **Move [child device's product code]**.

Click on the destination translator or expander product code.

The translator and / or expanders involved in this operation must be programmed.

## SAVING, OPENING AND COLLECTING A SYSTEM

### SAVE SYSTEM



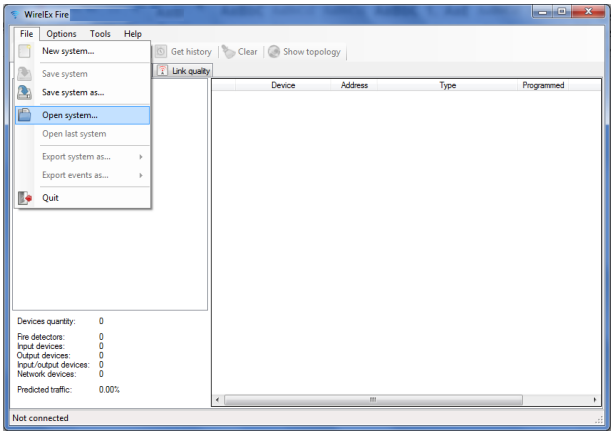

When you complete configuring and programming a wireless system, it is recommended that you save its **WirelEx** model on file.

To do so, click **File** on the main menu.

**File** menu options drop down.

Select either **Save system** or **Save system as...**

### OPEN SYSTEM



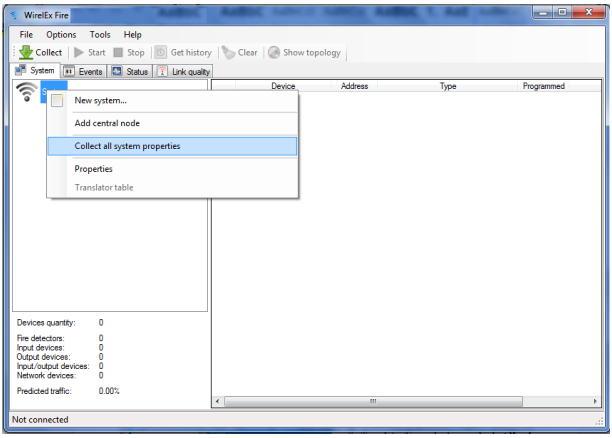

You can load into **WirelEx** the wireless system's configuration model.

Click **File** on the main menu.

**File** menu options drop down.

Select **Open system...**

## COLLECT ALL SYSTEM PROPERTIES




You can load the wireless system's configuration model onto the **WirelEx** directly from the translator module.

You computer must be connected to the translator via the RS232 serial cable.

Right click on the **System** icon.

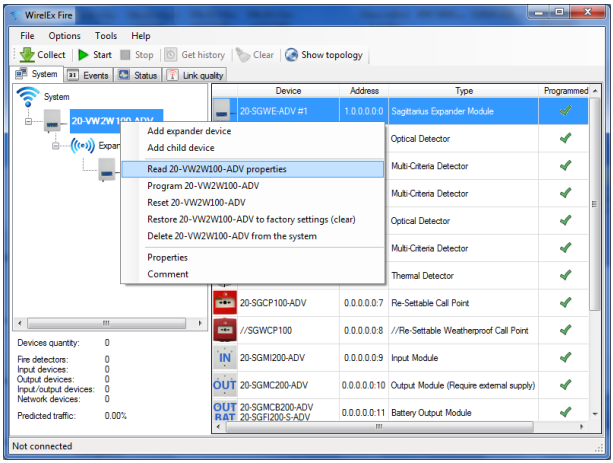
Contextual menu pops up.

Click **Collect all system properties**.

If there are expanders in your system, this operation can last up to several minutes.

You can click the **Collect** icon on the **WirelEx**'s tool bar to launch directly this function.

## READ THE TRANSLATOR'S OR EXPANDER'S PROPERTIES




Similarly to the collect function, you can load either from a translator or an expander its specific programming parameters and configuration model (this means ALL data, linked child devices types included).

You computer must be connected to the translator or expander, from which you want to collect its configuration model, via the RS232 serial cable.

Right click on the translator's or expander's icon.

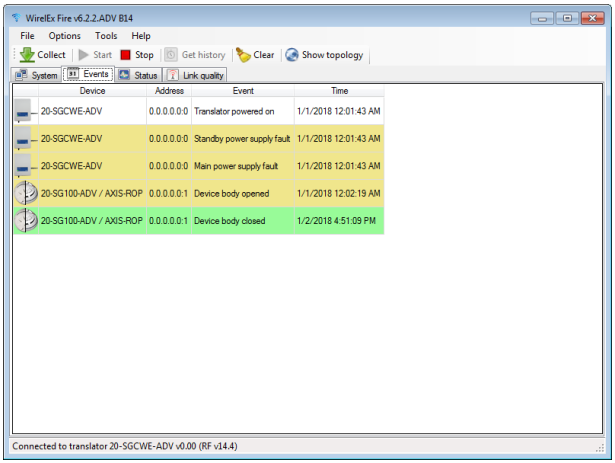
A contextual menu pops up.

Click **Read [Translator / Expander code] properties**.

## MONITOR THE EVENTS OF THE WIRELESS SYSTEM

### HOW TO MONITOR AND EXPORT THE EVENTS

You can perform the monitoring of the events of the wireless system only if all configuration, linking and programming is completed.




Connect the computer to the central node (**20-VW2W100-ADV** or **20-SGCWE-ADV**) with the RS232 serial cable.

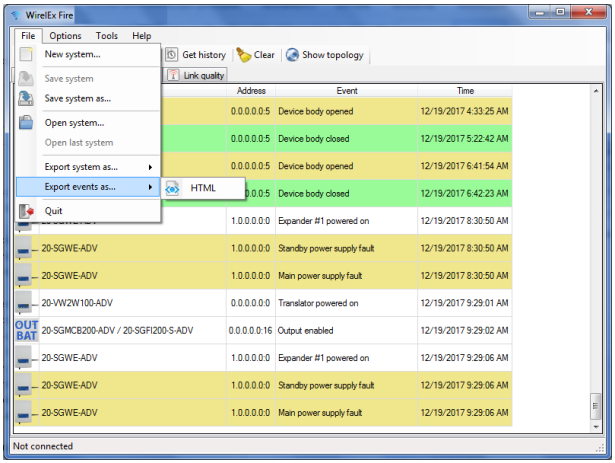
Click the **Events** tab.

**Events** tab page is visualized.

Click the **Start** icon on the **WirelEx**'s tool bar.

**WirelEx** now downloads, from the central node, real- time wireless system events.

You can also click the **Get history** icon on the **WirelEx**'s tool bar to download the event history list recorded in the central node's memory.




The event list can be exported to a file.

Click **File** on the **WirelEx** main menu.

**File** menu options drop down.

Select **Export events as...**

Select **HTML**.

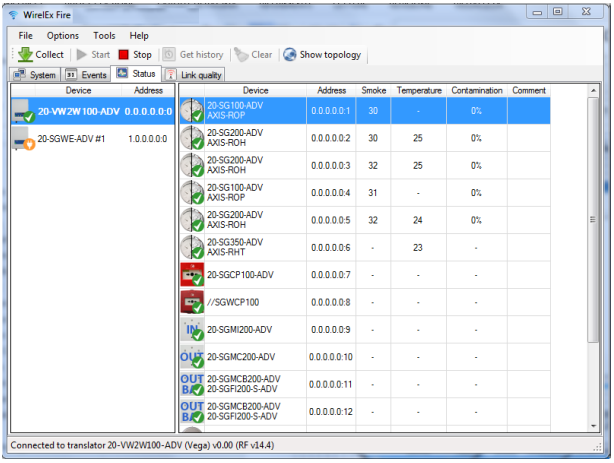
**GENERAL EVENTS - CENTRAL AND RELAY NODES**

| EVENT INDICATION | 20-VW2W100-ADV OR 20-SGCWE-ADV | 20-SGWE100-ADV |
|---|---|---|
| **Translator powered on** | Central node has been powered on or reset. All child devices will be reset from alarms and faults. | |
| **Expander #x powered on** | | Expander #x has been powered on or reset. All child devices will be reset from alarms and faults. |
| **Main power supply fault** | | Expander's main power supply fault. |
| **Main power supply restored** | | Expander's main power supply restored from fault. |
| **Standby power supply fault** | | Expander's secondary power supply fault. |
| **Standby power supply restored** | | Expander's secondary power supply restored from fault. |
| **No radio link with network device** | | No communication with a wireless device (expander or child device). |
| **Radio link with child device normal** | | Communication with wireless device (expander or child device) has been restored. |
| **External jamming level: x%** | The channel used by the system is disturbed by radio interference. | The channel used by the system is disturbed by radio interference. |
| **External jamming disappeared** | The radio interference on the channel used by the system has disappeared. | The radio interference on the channel used by the system has disappeared. |

**CHILD DEVICE EVENTS**

| EVENT INDICATION | 20-SG100-ADV<br>AXIS-ROP<br>20-SG200-ADV<br>AXIS-ROH | 20-SG350-ADV<br>AXIS-RHT | 20-SGCP100-ADV | 20-SGMI200-ADV | 20-SGR(B)S100-ADV<br>AXIS-RWSM<br>20-SGVA200-ADV<br>20-SGBE100-ADV | 20-SGMC200-ADV<br>20-SGFI200-S-ADV | 20-SGMCB200-ADV |
|---|---|---|---|---|---|---|---|
| **Fire alarm** | Device in alarm. | | | | | - | - |
| **Device body opened** | Device signalled a tamper fault. | | | | | | - |
| **Device body closed** | Device has recovered from a tamper fault. | | | | | | - |
| **Main battery low** | Main battery's power supply is below the fault threshold. | | | | | | |
| **Main battery normal** | The device has recovered from a main battery's power supply fault. | | | | | | |
| **Standby battery low** | Secondary battery's power supply is below the fault threshold. | | | | | | |
| **Standby battery normal** | The device has recovered from a secondary battery's power supply fault. | | | | | | |
| **General fault** | Optical chamber fault<br>*- or -*<br>Optical chamber is dirty<br>*- or -*<br>DIP switch is on the "**ON**" position. | DIP switch is on the "**ON**" position. | DIP switch is on the "**ON**" position<br>*- or -*<br>Always at power on (then automatically recovered). | DIP switch is on the "**ON**" position<br>*- or -*<br>Always at power on (then automatically recovered)<br>*- or -*<br>Short or open circuit on the supervised input. | DIP switch is on the "**ON**" position<br>*- or -*<br>Always at power on (then automatically recovered). | Always at power on (then automatically recovered)<br>*- or -*<br>Short or open circuit on the supervised output. | Tamper fault<br>*- or -*<br>Always at power on (then automatically recovered)<br>*- or -*<br>Short or open circuit on the supervised output. |
| **General fault** | The device has recovered from the general fault. | | | | | | |
| **No radio link with child device** | The child device didn't communicate with the "father" node for a period of time longer than the supervision time. | | | | | | |
| **Radio link with network device normal** | The child device managed to communicate again with the "father" node. | | | | | | |
| **Child device substitution attempt** | Two or more child devices, having the same wireless address, are trying to communicate with their "father" node. | | | | | | |
| **Device programmed** | The child device has been correctly linked and programmed. | | | | | | |
| **Child device deleted** | The child device has been removed from the wireless system. | | | | | | |
| **Output enabled** | - | | | | | The output has been activated. | |
| **Output disabled** | - | | | | | The output has been deactivated. | |

## CHECK THE WIRELESS DEVICES' STATUS




From the **Status** tab page you can have the status, detection and contamination information on all wireless system's devices.

It is divided into two tables: the left one for central and relay nodes, the right one for the child devices.

Click the **Status** tab.

**Status** tab page comes into view.

Click the **Start** icon on the **WirelEx**'s tool bar.

### DEVICE

You have here the device's icon and product code.
Status symbols are superimposed on the device's icons in the lower right region; if more than one applies, the latest detected one is visualized; these status icons are:

| | |
|---|---|
|  | Device status normal |
|  | Device in alarm |
|  | Device in general fault |
|  | Link fault |
|  | Device substitution attempt |
|  | Device tamper fault |
|  | Primary battery fault |
|  | Secondary battery fault |
|  | Unknown status |

### ADDRESS

The wireless address of the device.

### SMOKE

A numeric value proportional to the smoke concentration detected by the child device (applicable only for smoke and multi-criteria detectors).

### TEMPERATURE

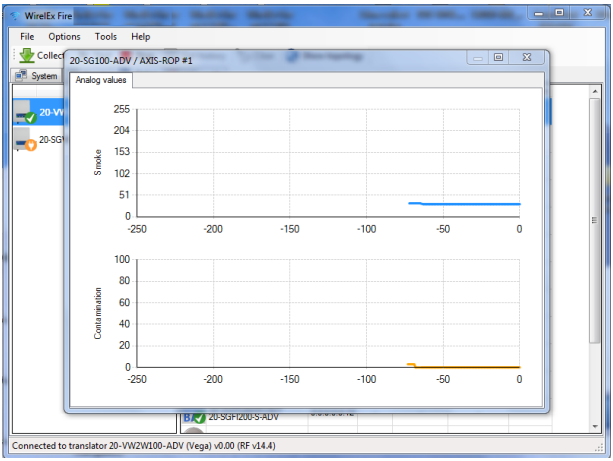
A numeric value proportional to the environmental heat detected by the child device (applicable only for temperature and multi-criteria detectors).

### CONTAMINATION

A numeric value, in percentage units, proportional to the degree of dirt contamination in the optical chamber; spans from 0%, clean, to 100%, dirty (applicable only for smoke and multi-criteria detectors).

### COMMENT

A note that you can assign to a specific wireless device (for example an installation location).

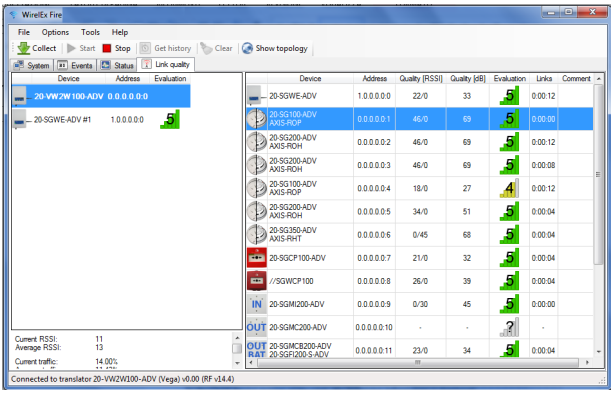



Wireless detector's data (smoke, temperature and contamination) can be viewed in graph format.
This type of view is in numeric value vs time format.

To access this type of view double click on the wireless detector's icon.

To exit this type of view close the window.

## CHECK THE WIRELESS LINK QUALITY




From the **Link quality** tab page you can assess the wireless link quality of all wireless system's devices (with the exception of the central node).

It is divided into two tables: the left one for central and relay nodes, the right one for the child devices.

Click the **Link quality** tab.

**Link quality** tab page comes into view.

Click the **Start** icon on the **WirelEx**'s tool bar.

**DEVICE**
You have here the device's icon and product code.

**ADDRESS**
The wireless address of the device.

**QUALITY (RSSI)**
Wireless link quality with the "father" node in RSSI units.

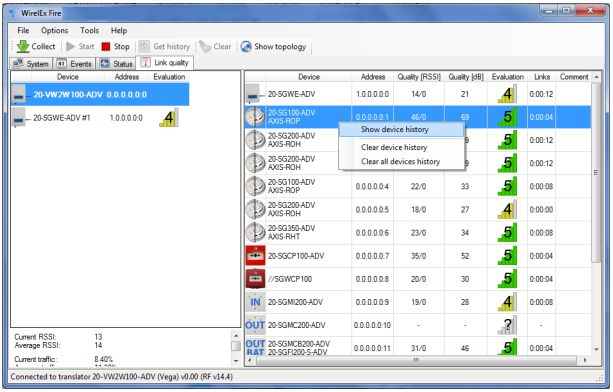
**QUALITY (DB)**
Wireless link quality with the "father" node in dB units.

**EVALUATION**
Wireless link quality with the "father" node in "Mark" units; these units are based on an evaluation scale:

| | | |
|---|---|---|
| Mark 2 | Unacceptable | Very weak: <10 dB |
| Mark 3 | Becoming marginal | Link from 10 to 20 dB; should be >15 dB |
| Mark 4 | Good | Good communication: link from 20 to 30 dB |
| Mark 5 | Excellent | Excellent communication: link > 30dB |

**LINKS**
This is the time elapsed from the last communication with the "father" node.

**COMMENT**
A note that you can assign to a specific wireless device (an installation location, for example).




You can visualize the link quality readings of a child device in graph format.

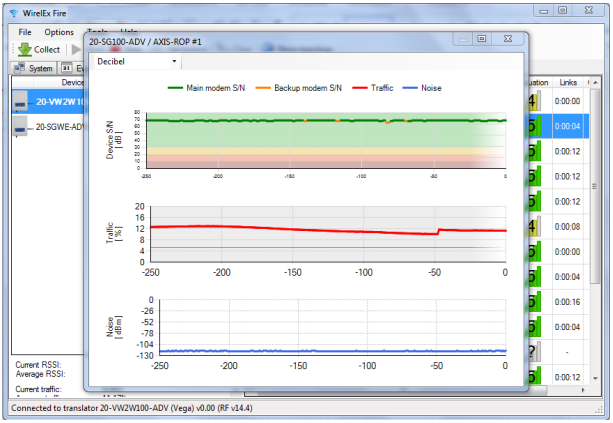
Click the child device row you are interested in.

The row highlights.

Right click the highlighted row.

Contextual menu pops up.

Click **Show device history** menu option.
Note: this option can be shortcut by double clicking the row.




The device history window of the selected child device pops up.

The window shows the following graphs:

| | |
|---|---|
| Device S / N | Child device's signal / noise ratio vs time.<br>It is the wireless link quality (**Quality** column in the previous window).<br>Can be expressed either in dB or in RSSI units. |
| Traffic | Child device channel's traffic percentage vs time.<br>It is expressed in percentage units. |
| Noise | Child device channel's noise vs time.<br>Can be expressed either in dBm or in RSSI units. |

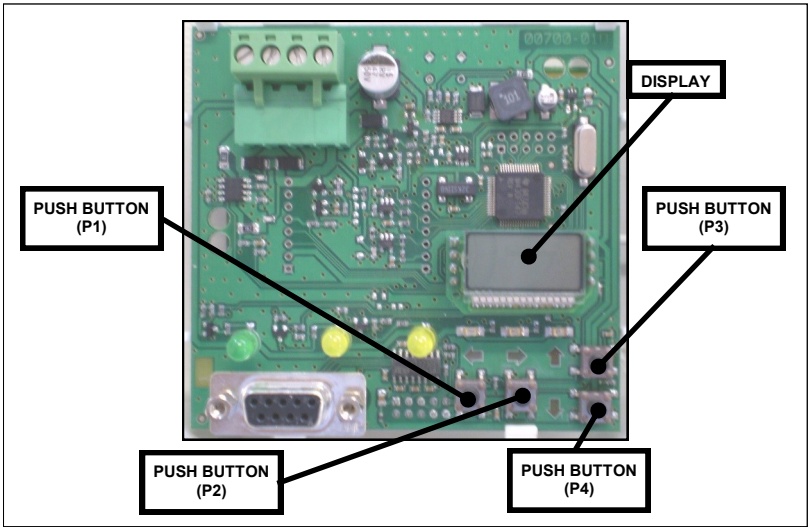
You can choose whether to have the readings in dB or RSSI by selecting the unit type in the drop down selection list in the upper left area of the window.

These are the other contextual menu's options you can use:

**CLEAR DEVICE HISTORY**
Clears all the **Device S / N** graph's values of the child device you have selected.

**CLEAR ALL DEVICES HISTORY**
Clears all the **Device S / N** graph's values of all child devices in the list.

**THE LOAD PROCEDURE**




Use the **P1**, **P2**, **P3**, **P4** buttons and the display on the translator's front board to navigate through the module's options menu.

1) Press **P3** or **P4** to scroll up or down until **rF** is displayed.
2) Press **P2**.
3) **EXP** is displayed.
4) Press **P2**.
5) Press **P3** or **P4** to scroll up or down until **LOAd** is displayed.
6) Press **P2**.
7) **ConF** is displayed.
8) Press **P2**.
9) **donE** is displayed.
10) Press repeatedly **P1** until the display is cleared.

The control panel can log the wireless system correctly only if the load procedure is done.

This procedure does not apply to the **20-SGCWE-ADV** central node.

**GIVE THE TRANSLATOR AN ANALOGUE ADDRESS**

After you have completed:

- configuring the wireless system with the **WirelEx**

- loaded the devices' references onto the loop analogue interface

you must assign an analogue address to the translator.

1) Press **P3** or **P4** to scroll up or down until **LooP** is displayed.

2) Press **P2**.

3) **SA** is displayed.

4) Press **P2**.

5) Use **P3** or **P4** to increment or decrement the translator's analogue address: values range from 1 to 240.

6) Press **P2**.

7) **SA** is displayed. again.

10) Press repeatedly **P1** until the display is cleared.

This procedure does not apply to the **20-SGCWE-ADV** central node.

The translator is now addressed with the value you have set.

The wireless child devices too have now an analogue address.

Let's make an example: the translator has an analogue address of **10**.
Linked to the translator you have three child devices.

You will have:

| | |
|---|---|
| Translator | address **10** |
| Device # 1 | address **11** |
| Device # 2 | address **12** |
| Device # 3 | address **13** |

For more information on the **20-VW2W100-ADV** analogue address assignment refer to its user manual.

**WIRELESS SYSTEM'S CONFIGURATION SUMMARY**

This is just a summary; refer mainly to the specific paragraphs laid out before in this manual.

1) Connect the computer RS232 serial cable to the central node (**20-VW2W100-ADV** or **20-SGCWE-ADV**).
2) Program the central node.
3) Connect the computer RS232 serial cable to an expander (**20-SGWE100-ADV**).
4) Program the expander.
5) Repeat programming for all **20-SGWE100-ADV**'s: go to step 3) until all expanders are programmed.
6) Link - program the child devices to their intended central node and expanders.
7) Load the wireless child device's references onto the loop analogue interface.
8) Save the configuration **WirelEx** model in a file: you may need it in the future.
9) Check out that no mistakes were made in the wireless configuration phase (next paragraph).
10) Check out that your wireless system works (next paragraph).
11) If you are using a **20-VW2W100-ADV**, assign to it an analogue address.
12) Load the system on the control panel (refer to the control panel's user manual).

**CHECK OUT YOUR WIRELESS SYSTEM CONFIGURATION**

When you have completed all the wireless system configuration and programming:

1) Check that the **20-VW2W100-ADV** (or the **20-SGCWE-ADV**) and all **20-SGWE-ADV**s are programmed: their name in bold style.
2) Check that you have configured all the wireless child devices (correct device types, correct quantities and correct "father" node).
3) Check that all child devices have been linked - programmed (green check icon in the **Programmed** column).
4) Check the translator table; in particular check that the child device's types are correct, they belong to the correct "father" node and they have the correct device number. Obviously check that you have all the child devices in the table.
5) Perform a **Collect all system properties**.
6) Repeat checks 1), 2), 3), and 4).
7) If you are using a **20-VW2W100-ADV**, check that there is no load error ("**LOEr**").
8) If you are using a **20-VW2W100-ADV**, check the child device's list using the front board keypad-display's **List** function. You can have more information on this function from the **20-VW2W100-ADV** user's manual.

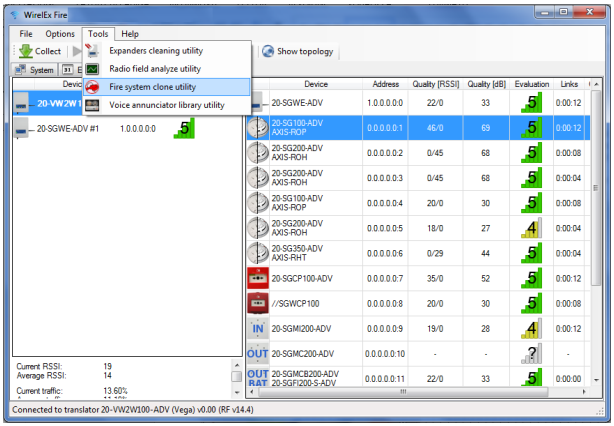
**CHECK THAT YOUR WIRELESS SYSTEM WORKS**

1) Check that the wireless system raises events: try to trigger a tamper fault and alarm a detector or a call point.
2) Check the status of the wireless devices, in normal, alarm and fault statuses.
3) Check the good wireless link quality of the all devices.

**THE FIRECLONE UTILITY**

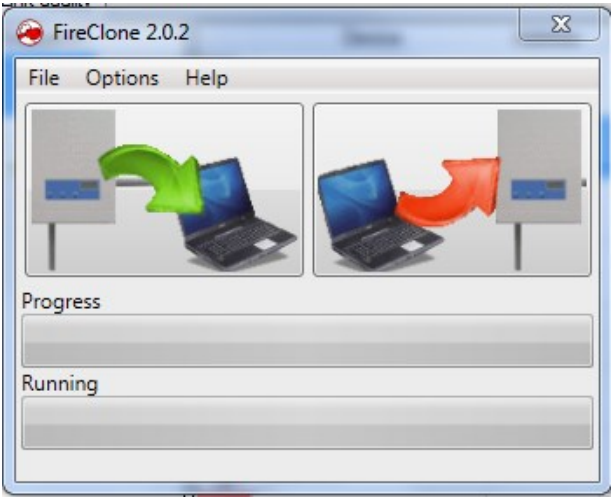
If you need to replace a **20-VW2W100-ADV**, **20-SGCWE-ADV** or **20-SGWE-ADV** with another one and you want to avoid reconfiguring the device with **WirelEx**, you can use the **FireClone** utility.

**FireClone** permits you to copy from the old to the new module the programmed configuration data.




On **WirelEx**, click the **Tools** menu.

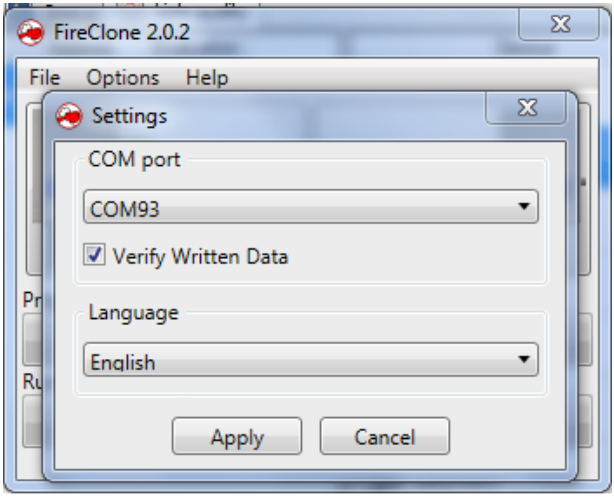
On the drop down menu click **Fire system clone utility**.




**FireClone**'s main window appears.

Click **Options** on the main menu.

On the drop down menu click **Settings**.



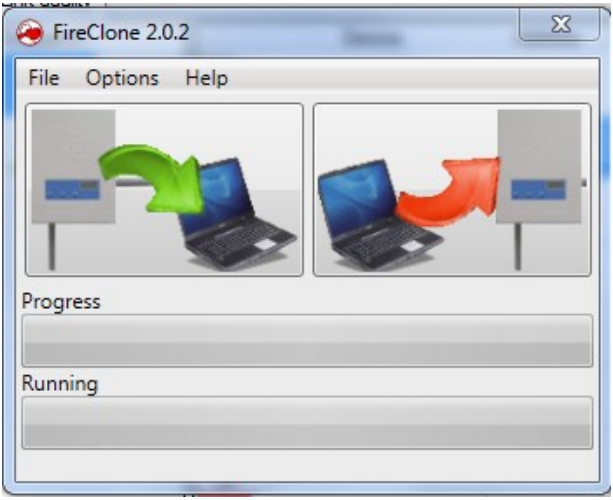

**Settings** dialogue window pops up.

Select the **COM port**.

**Verify Written Data**: you can specify whether **Fire-Clone** checks the configuration data that was transferred to the destination module.
It is suggested to keep this box checked.

Select the desired **Language**.

**Apply** to confirm the changes, **Cancel** to discard them.




Connect your computer to the **old** central node or expander via the RS232 cable.
Do not use wireless serial interfaces.

Click the left image.

Wait that the configuration is downloaded.

Connect your computer to the **new** central node or expander via the RS232 cable.
Do not use wireless serial interfaces.

Click the right image.

Wait that the configuration is uploaded.

The configuration has been copied.

Note that the configuration is copied temporarily on the computer and not saved on its hard drive; if you exit **FireClone** after reading it, this will be deleted.

You must complete the copy operations in one **Fire-Clone** session.