




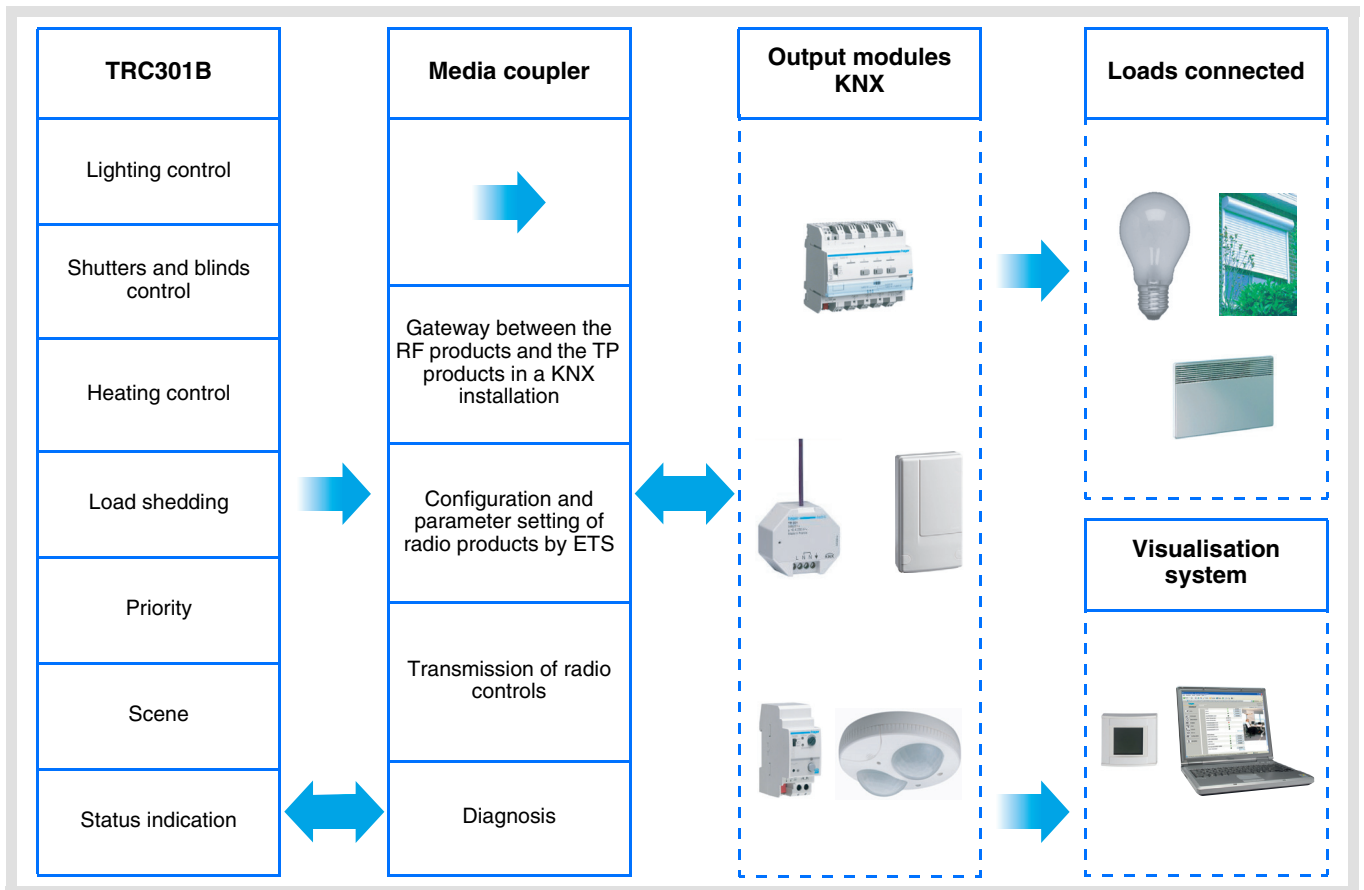
Tebis application software

quicklink RF opening detector

Electrical / Mechanical characteristics: see product user's instructions

- Manufacturers
- Hager Electro
- RF devices
- Opening detector

	Product reference	Product designation	Application software ref.
	TRC301B	RF opening detector	STRC301B





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1. Presentation of the functions


1.1 General points

The radio opening detector to which this document refers is an Quicklink  RF product. It can be recognised by its **cfg** configuration push button. Quicklink  indicates the configuration without tools mode.

These products can also be configured to E mode by the TX100 or in S mode by ETS via the media coupler .

This document describes the configuration principle with the ETS software via the media coupler and the functions available in this mode.

Within the same installation, a single configuration mode may be used.

To reuse a product that has already been programmed in another installation by TX100 or quicklink , with ETS, it is necessary to perform a factory reset for the product.

1.2 Description of the product

General points:

The opening detector is a battery powered KNX radio transmitter. It allows the opening and closing of a door or window to be reported by the **Status indication** object.

It is possible to launch another KNX control of the type heating frost protection, shutter up, scene, etc.. This KNX control can be freely programmed and will be transmitted according to the settings, either:

- Only when the contact opens or closes,
- When the contact opens and closes.

A button on the front of the product allows the user to interrupt automatic operation (no more radio transmissions except for the **Status indication - Battery status** object). The effect of this button can be inhibited by configuration, leading to permanent automatic function.

Remote contact:

To increase the capacities of the detector, a remote contact can be connected. The two contacts will then be processed as an OR logic function.

To activate detection by the remote contact, its window must be activated at least once.

To remove a remote contact which has already been activated, reset the product by removing the batteries for 30 s.

1.3 Function Description

The radio transmitter application software enables each input to be configured individually.

The main functions are the following:

■ Emission of commands

The inputs allow commands for lighting, shutters and blinds, heating settings and scenes to be transmitted.

Emission of commands:

- Lighting control
 - ON, OFF, Timer, Value in %, Priority
- Shutters / Blinds control
 - Up, Down, Stop, Value in %, Priority
- Set point selection (Heating)
 - Auto, Comfort, Standby, Night set-point, Frost protection, Value in %, Priority

■ Scene

The Scene function sends group controls to different kinds of outputs to create ambiences or scenarios.

Example of scene 1: Leaving the house (centralised lighting control OFF, shutters on south side 3 / 4 closed, the other shutters open, heating switched over to Reduced mode).

■ Priority

The Priority function allows an input to be forced to a defined status. The forcing action depends on the type of application controlled: Lighting, Shutters / blinds, Heating.

■ Load shedding

The Load shedding function is a 1 function allowing the operation of certain electrical receivers (heat transmitters, heating SHW, refrigeration unit) to be temporarily stopped if the subscribed power is exceeded. For example: Heating cut off in the room if the window is opened followed by a reloading order when the window is closed.

■ Opening detection, Status indication

The **Status indication - Opening detection** object is in 1 bit format and is transmitted each time opening or closing is detected.

2. Configuration and settings

2.1 List of parameters and objects

List of parameters				Objects List		
General	Parameter	Setting	Default function	Name	Function and format	
		Push button automatic operation	Used, Not used	Used		
Input 1	Channel function	Lighting		Input 1	ON / OFF	1 bit
	Function on opening ...	Not used, ON, OFF, Toggle switch	ON			
	Function on closing ...		OFF			
		Timer		Input 1	Timer	1 bit
	Function on opening ...	Not used, Start, Stop	Start			
	Function on closing ...		Not used			
		Shutters / blinds		Input 1	Up / Down Slat angle / Stop	1 bit 1 bit
	Function on opening ...	Not used, Up, Down, Stop	Up			
	Function on closing ...		Down			
		Heating		Input 1	Heating set point	1 byte
	Function on opening ...	Not used, Auto, Comfort, Standby, Night set-point, Frost protection	Frost protection			
	Function on closing ...		Auto			
		Scene		Input 1	Scene	1 byte
	Function on opening ...	Not used, Scene 1 ... Scene 32	Scene 1			
	Function on closing ...		Not used			
		Value in %		Input 1	ON / OFF Value in %	1 bit 1 byte
	Value in % at	Opening / Closing, Opening, Closing				
	Function on opening ...	0% ...100%	100%			
	Function on closing ...		0%			
		Priority		Input 1	Priority	2 bit
Function on opening ...	Priority ON / Down / Comfort, Priority OFF - Up - Night set-point, Not used, Priority end	Priority ON / Down / Comfort				
Function on closing ...		Priority end				
	Heating activation		Input 1	Heating activation/ deactivation	1 bit	
Function on opening ...	Not used, Activation, Deactivation	Deactivation				
Function on closing ...		Activation				
	Load shedding		Input 1	Load shedding	1 bit	
Function on opening ...	Not used, Load shedding active, Load shedding not active	Active				
Function on closing ...		Not active				
	Order emission after (in case of oscillation of the opening devices)	Not used, 1 s - 10 s	Not used			
				Status indication	Opening detection	1 bit
					Battery Status	1 bit

2.2 Definition of the parameters and objects

2.2.1 : Push button automatic operation

Parameter	Description	Value
Push button automatic operation	<p>This parameter defines utilization of the button on the front of the product.</p> <ul style="list-style-type: none"> Used: allows the user by pushing the push button to interrupt automatic operation (telegrams are no longer sent each time the opening changes status) and by pushing the button again to re-establish automatic operation, Not used: in this case, pushing the push button will no longer have any effect (permanent automatic operation). 	<p>Not used, Used</p> <p>Default value: Used</p>

2.2.2 Status indication - Opening detection

The **Status indication - Opening detection** object is a command sent on the bus each time the status of the window changes. It indicates the position of the window.

0 = Window closed

1 = Window open

No parameters.

Following 2 consecutive status changes, the 1st message will be sent immediately (e.g. opening of the window) but in this case, closing will only be sent after a time delay of 20 s.

2.2.3 Input 1

■ Parameter setting: Channel function

The opening detector is used to control lighting, shutters and blinds, heating, scenes, priorities and load shedding. This is a switch type input, for which an action can be associated with each of the two following events:

- Function when the contact (on the opening) opens,
- Function when the contact (on the opening) closes

Parameter	Description	Value
Channel function	This parameter is used to select the type of function associated with the input 1.	<p>Lighting Timer Shutters / blinds Heating Scene Value in % Priority Heating activation Load shedding</p> <p>Default value: Lighting</p>

■ Parameter setting: Order emission after ...

This parameter for input 1 only is used to limit the frequency of transmission, particularly if the opening is swinging open and shut.

Parameter	Description	Value
Order emission after (in case of oscillation of the opening devices)	This parameter is used to select the minimum duration between 2 consecutive telegrams.	<p>Not used, 1 s - 10 s</p> <p>Default value: Not used</p>

■ Channel function: Lighting ON, OFF

This function is used to control switching a lighting circuit on or off or any other load when a window is opened and/or closed. The ON or OFF command will be transmitted to the bus via the **ON / OFF** object. The command to be sent must be defined in the parameters:

- Function on opening: Not used, ON, OFF, Toggle switch,
- Function on closing: Not used, ON, OFF, Toggle switch.

→ ON: Emission of the ON control when the contact opens or closes.

→ OFF: Emission of the OFF control when the contact opens or closes.

→ Toggle switch*: Inversion of the status of the control each time the contact opens or closes.

→ Not used: No emission of controls.

* Caution: The toggle switch cannot be synchronised with another toggle switch acting on the same output.

0 = OFF

1 = ON

■ Channel function: Lighting, Timer

This function is used to launch or interrupt a timer which is running when a window is opened and/or closed. The Timer control is sent on the Bus via the **Timer** object. The control to be sent is defined by the following parameters:

- Function on opening: Not used, Start, Stop,
- Function on closing: Not used, Start, Stop.

→ Start: Emission of the Timer control when the contact opens or closes.

→ Stop: Emission of the Stop control (the timer immediately stops) when the contact opens or closes.

→ Not used: No emission of controls.

The timer duration is set on the output module.

0 = Stop

1 = Start

■ Channel function: Shutters / blinds

This function is used to control shutters when a window opens and/or closes. The Up or Down control is sent on the Bus via the **Up/ Down** object. The Stop control is sent via the **Slat angle / Stop** object. The control to be sent is defined by the following parameters:

- Function on opening: Not used, Up, Down, Stop,
- Function on closing: Not used, Up, Down, Stop.

→ Up: Emission of the Up control when the contact opens or closes.

→ Down: Emission of the Down control when the contact opens or closes.

→ Stop: Emission of the Stop control when the contact opens or closes, no slat angle adjustment.

→ Not used: No emission of controls.

0 = Up

1 = Down

■ Channel function: Heating

This function is used to select a heating setpoint when a window opens and/or closes. The Heating mode selection function transmits the **Set-point selection** object. Selection of the setpoint to be sent is defined by the following parameters:

- Function on opening: Not used, Auto, Comfort, Standby, Night set-point, Frost protection,
- Function on closing: Not used, Auto, Comfort, Standby, Night set-point, Frost protection.

- Auto: Emission of the Auto control when the contact opens or closes.
- Comfort: Emission of the Comfort control when the contact opens or closes.
- Standby: Emission of the Standby control when the contact opens or closes.
- Night set-point: Emission of the Night set-point control when the contact opens or closes.
- Frost protection: Emission of the Frost protection control when the contact opens or closes.
- Not used: No emission of controls.

0 = Auto
 1 = Comfort
 2 = Standby
 3 = Night set-point
 4 = Frost protection

■ Channel function: Scene

This function is used to select a scene when a window is opened and/or closed. The scene control is sent on the bus via the **Scene** object. Selection of the scene number is defined by the following parameters:

- Function on opening: Scene 1...Scene 32, Not used,
- Function on closing: Scene 1...Scene 32, Not used.

Scene 1 to Scene 32: Emission of Scene control x when the contact opens or closes.
 Not used: No emission of controls

The opening detector does not allow for the recording of the scenes.

■ Channel function: Value in %

2 objects are available for this parameter:

- A **1 bit ON / OFF** object
- A **value in %** object

Value of the 1 bit object, it sends:

0 if the value in % = 0%
 1 if the value in % > 0%

Value of the object in %

The latter is used to send a value in % (dimming level, position of the shutter, % heating, etc.) when a window is opened or closed.

The Value in % control is sent on the bus via the **value in %** object. The control to be sent is defined by the following parameters:

- Value in % at: This parameter allows only opening or closing of the contact to be used or to use both actions, i.e. emission of a value in % when the contact is opened and closed,
- Function on opening: 0 - 100%,
- Function on closing: 0 - 100%.

- Opening: Emission of a value in % when the contact opens.
- Closing: Emission of a value in % when the contact closes.

■ Channel function: Priority

This function is used to send priority controls or cancel priorities when a window is opened and/or closed. No other command is taken into account if a priority is active. Only end of priority or alarm commands will be taken into consideration. The priority control is sent on the bus via the **Priority** object. The control to be sent is defined by the following parameters:

- Function on opening:
 - Not used, Priority ON - Up - Comfort,
 - Priority OFF - Down - Night set-point, ON priority end ...
 - OFF priority end ...
- Function on closing:
 - Not used, Priority ON - Up - Comfort,
 - Priority OFF - Down - Night set-point, ON priority end ...
 - OFF priority end ...

- Priority ON - Up - Comfort: Emission of the control when the contact opens or closes.
- Priority OFF - Down- Night set-point: Emission of the control when the contact opens or closes.
- ON priority end - Up - Comfort: Emission of the control when the contact opens or closes.
- OFF priority end - Down - Night set-point: Emission of the control when the contact opens or closes.
- Not used: No emission of controls.

00 = OFF priority end - Down - Night set-point

01 = ON priority end- Up - Comfort

10 = Priority OFF ...

11 = Priority ON ...

■ Channel function: Heating activation

This function is intended for heating or air-con products (thermostats, output modults for heating or air-con, etc.). It is used to select an On/Off control or a frost protection setpoint when a window is opened or closed. The heating activation control is sent via the **heating activation / deactivation** object.

The control to be sent is defined by the following parameters:

- Function on opening: Not used, Heating activation, Heating deactivation,
- Function on closing: Not used, Heating activation, Heating deactivation.

- Heating activation: Emission of the heating activation control when the contact opens or closes.
- Heating deactivation: Emission of the heating deactivation control when the contact opens or closes.
- Not used: No emission of controls.

0 = Heating deactivation

1 = Heating activation

■ Channel function: Load shedding

This function is used for load shedding or to cancel load shedding when a window is opened and/or closed. The control is sent via the **Load shedding** object.

The control to be sent is defined by the following parameters:

- Function on opening: Not used, Load shedding active, Load shedding not active,
- Function on closing: Not used, Load shedding active, Load shedding not active.

- Load shedding active: Emission of the load shedding control active when the contact is opened or closed.
- Load shedding not active: Emission of the load shedding not active control when the contact is opened or closed.
- Not used: No emission of controls.

0 = Load shedding not active

1 = Load shedding active

2.2.4 Status indication: Battery Status

The **status indication - battery status** object is information sent on the bus when the battery charge reaches a critical level. Information is not sent periodically.

0 = Low level

1 = High level, (Batteries OK). Sent when new batteries are put in.

No parameters.

2.3 Configuration with media coupler (ETS version \geq 3.0f)

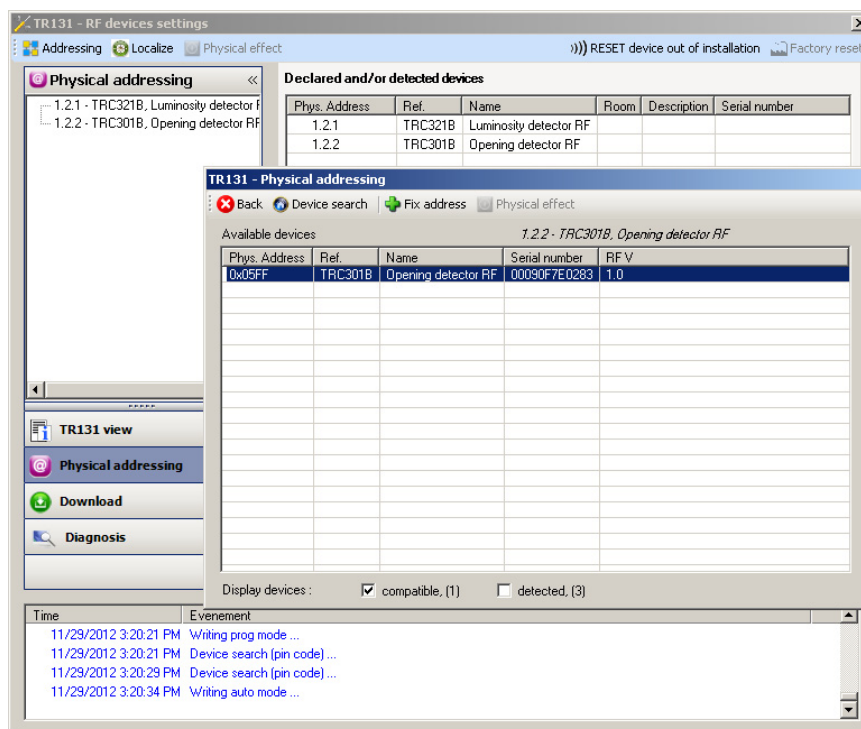
■ Configuration principle

The media coupler enables configuration by ETS of RF devices for a KNX radio installation or a mixed KNX installation including RF devices and wired buses. For normal operation, the radio transmitters operate in a one-direction mode. Configuration takes place in bi-directional mode.

Procedure:

- Create a line reserved for RF devices in your ETS plan. First insert the media coupler into this line, then insert the other RF devices into this line,
 - Perform the programming, parameter settings and group addressing for all the RF products except for the media coupler,
 - Download the physical address of the media coupler. This must be of the type 1.1.0 (always end with a zero),
 - Install the media coupler plug-in: Right-click on the product in the ETS tree structure, then select **edit the parameters**. Windows Administrator rights are necessary to install the plug in.
- ### ■ Physical addressing:
- Click on the button **Physical addressing** to display the physical addressing screen for the plug in,
 - Select the device to be addressed, then click on the field **Addressing** in the menu line at the upper left of the window,
 - Press the **cfg** button for each transmitter to be addressed, then click **Device search** (if the device is not found by the search, perform a **RESET device out of installation**, or manually on the device by pressing the **cfg > 10 s** button),
 - Select the device to be addressed and click on **Attribute address**. The physical addressing of the product is performed. The product is now part of the installation,
 - After downloading the physical address, the symbol appears in front of the product,
 - Repeat this operation for the other radio transmitters.

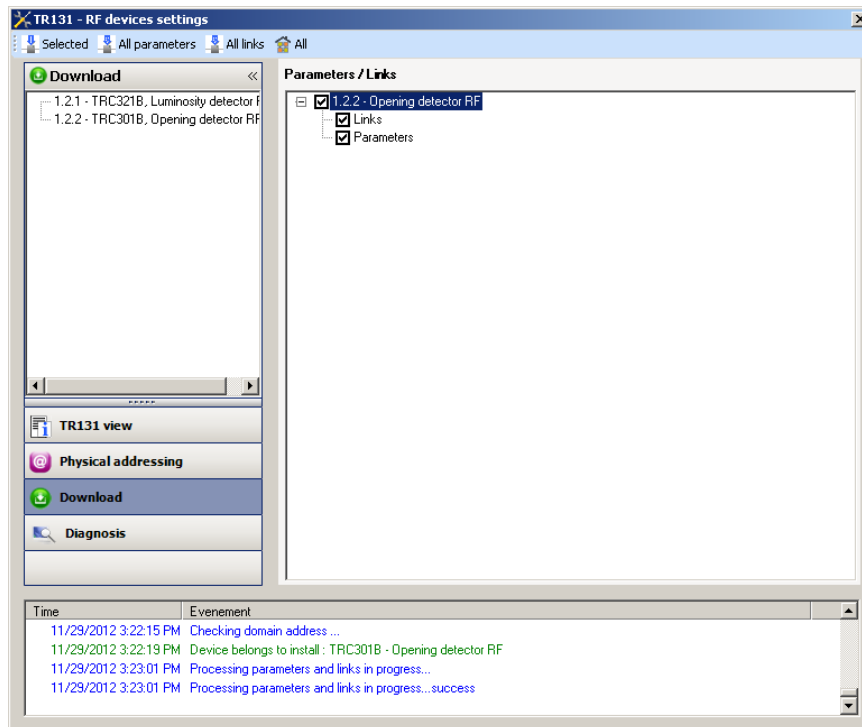
Caution: After an interruption in the above operations greater than 10 mn, it is necessary to press the **cfg** button again on the transmitter devices to be programmed.



2.3.1 Downloading the program and the parameters

This operation is performed on the **Download** screen of the plug in.

- Click on **Download** and follow the instructions on the screen.



To test the functions and the KNX radio communication, return to normal use mode and wait 15 s before pressing a control button on a transmitter.

Caution: The media coupler plug-in must be deactivated during the functional tests.

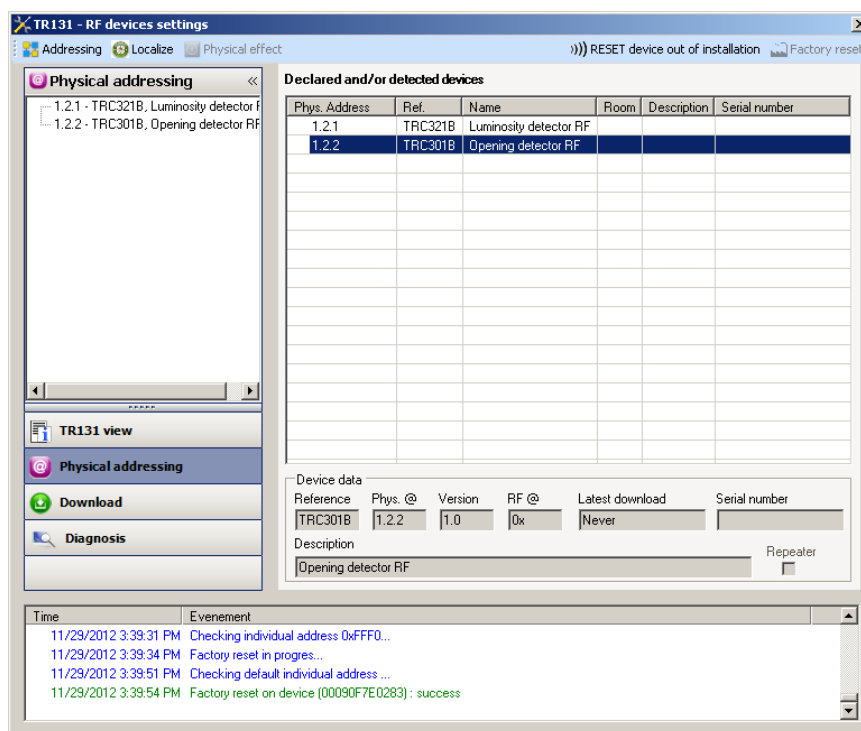
NB: For further information, please refer to the description of the media coupler application software.

3. Factory reset

This function enables the product to be returned to its initial configuration (factory reset). After a device reset, the device can be re-used in a new installation. A factory reset can be performed either directly on the product or by the media coupler plug-in. The latter solution is recommended if the product is part of the installation configured by ETS, which erases the product from the project.

3.1 Factory reset by ETS via the media coupler

- For a product which is part of the installation (known by the media coupler): In the **Physical addressing** menu, select **Factory reset** and then follow the instructions which appear on the screen,
- For a product which is not part of the installation (unknown by the media coupler): In the menu **Physical addressing**, select **RESET device out of installation**, then **Unidirectional device with Addr. button**.




3.2 Factory reset on the product

It is always possible to perform the factory reset directly on the device.

Factory reset on the product:

Do a long key press (> 10 seconds) on the **cfg** push button, release the button when the **cfg** LED blinks, Wait for the **cfg** LED to switch off, indicating that the factory reset has been completed.

Remark:

To reuse a product that has already been programmed in another installation by TX100 or quicklink , with ETS, it is necessary to perform a factory reset for the product.

4. Characteristics

Product	TRC301B
Max. number of group addresses	60
Max. number of links	85

