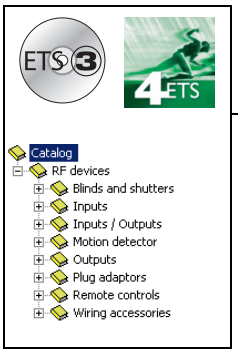
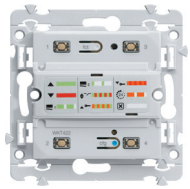
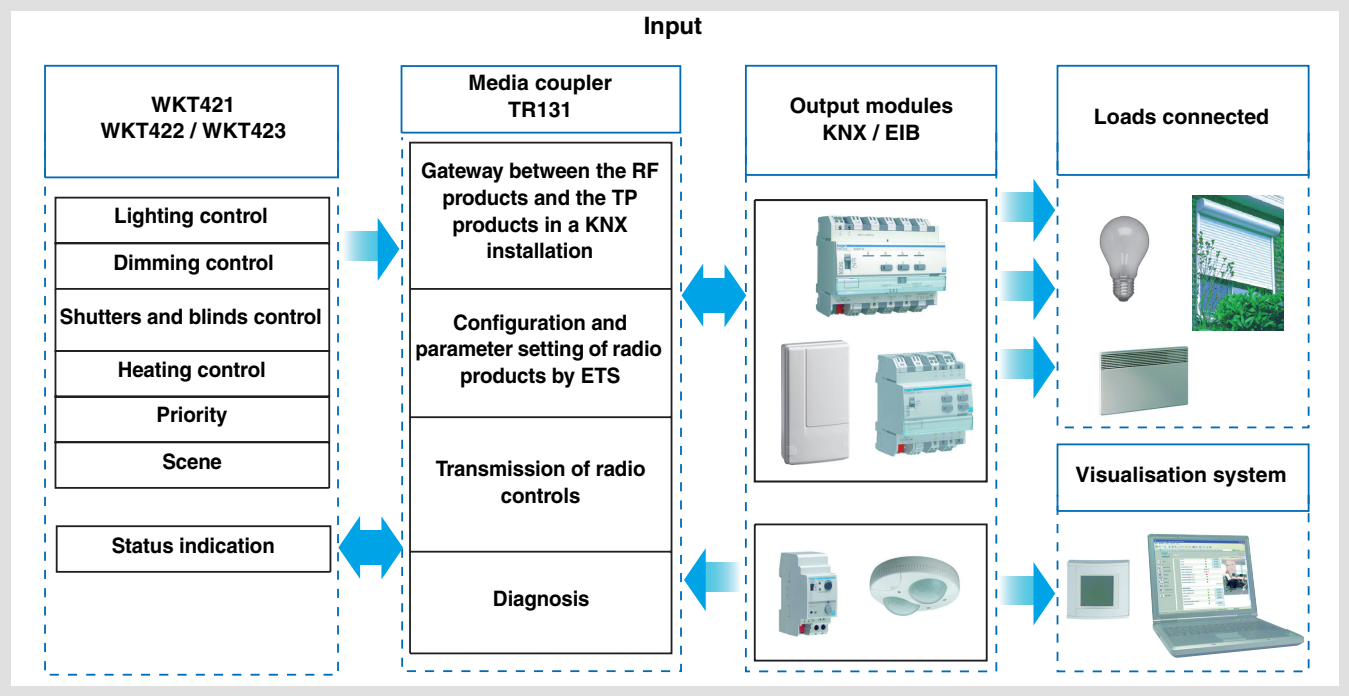


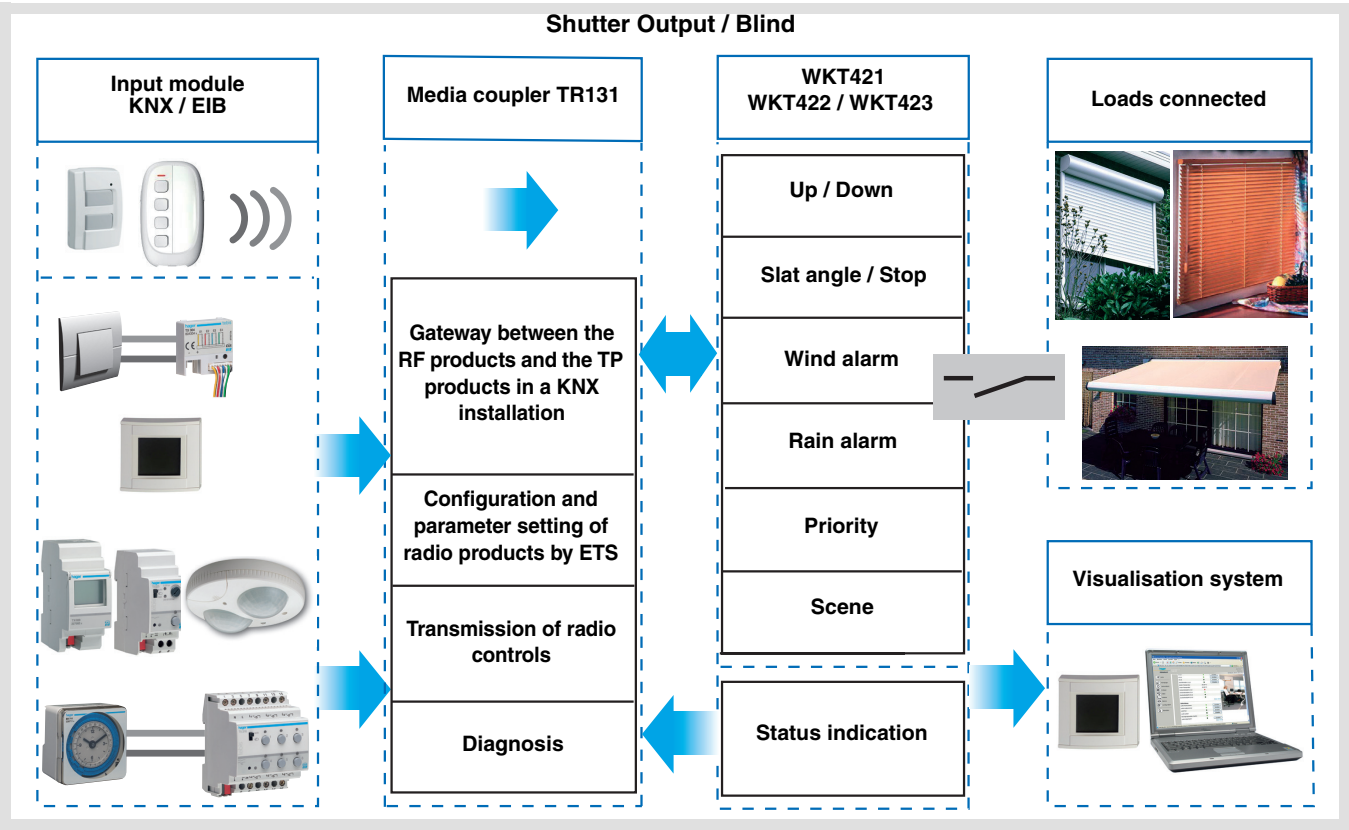
Tebis application software

quicklink radio shutters / blinds input / output products

Electrical / Mechanical characteristics: see product information

	**Product reference**	**Product designation**	**Application software ref.**	**TP device** ▬ **RF device** (((
	WKT421	4 cord shutters	SWKT421	(((
	WKT422	3 cord shutters with repetition	SWKT422	
	WKT423	4 cord shutters with repetition	SWKT422	





Summary

1. Presentation

1.1 General points

All the radio emitters / receivers referred to in this document are quicklink RF devices. They can be recognised by the configuration **cfg** push button with which they are all equipped. 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 TR131.

In this case, the version of the TR131 must fulfill the following characteristics:
- Firmware: ≥ 1.2.5
- Plug in: ≥ 1.0.11

This document describes the configuration principle with the software ETS via the coupler TR131 and the functions available in this mode.

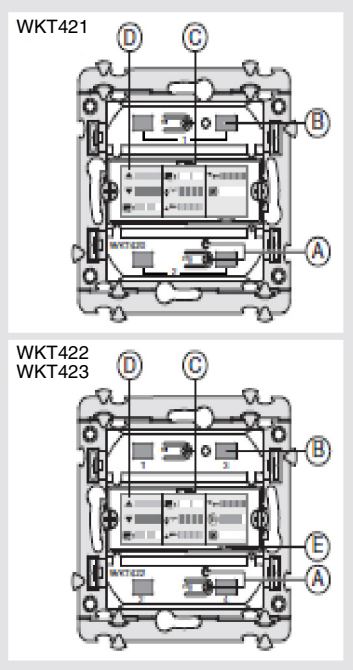
Within the same installation, a single configuration mode may be used.

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 Function Description

The application software SWKT421 enables the 2 inputs (push button 1 and push button 2) and the output of the WKT421 shutter control to be configured.

The application software SWKT422 / SWKT423 enable the 2 inputs (push button 1 and push button 2) and the output of the WKT422 / WKT423 shutter control to be configured.



A Button and LED configuration "cfg"
B Push button 1 and 2 (WKT421), 1 - 4 (WKT422 and WKT423)
C Button and LED function "fct"
D Functions label
E Orange Repetition LED (WKT422 and WKT423)
Repetition function

1.2.1 Inputs

The following functions can be associated with the push buttons:

Sending commands

- Lighting control:
  Toggle switch, ON, OFF, ON / OFF, Timer
  1 button or 2 button dimmer
- Shutters / Blinds control:
  Up, Down, Stop, Slat angle
  1 button or 2 button control
- Set point selection (Heating)
  Comfort, Night set-point, Frost protection, Auto, Standby

Scene

The Scene fonction can be used to send group commands to different sorts of outputs to create atmospheres or scenarii (leave scenario, reading atmosphere, etc.).

1.2.2 Shutter Output

The application software SWKT421 / SWKT422 / SWKT423 enable the shutter application outputs to be configured. The main functions are the following:

Up / Down

The Up / Down Function allows moving up or down a shutter, a blind with inclinable slats, an awning, a Venetian blind, etc.

This function also allows opening and closing electric curtains. The command may come from switches, pushbuttons or automatic controls.

Slat angle / Stop

The Slat angle / Stop function allows inclining the slats of a blind or stopping its current movement. This function allows modifying the occultation or the direction of the light beams coming from outside.

The command comed from push buttons: Short key-press on the Up / Down push button.

Alarm 1 (Wind) and Alarm 2 (Rain)

The Alarm functions allow putting a shutter or a blind in a parametrisable predefined status. These functions have the highest priority. No other command is taken into consideration if an Alarm is active. Only the end of the alarm enables again the other commands.

Priority

The Priority function allows forcing a shutter or a blind into a predefined position. This command has priority, but at a lower level than the alarms. No other command is taken into account if a priority is active. Only end of priority or alarm commands will be taken into consideration.

Scene

The Scene function groups a set of outputs. These outputs can be set to an adjustable predefined status. Pressing a single push button activates a scene. Each output may be integrated into 8 different scenes. The Repetition function enables the user to activate the repetition control, which can be associated with any emitter. This function is available on emitters/receivers WKT412, WKT422, WKT423.

Status indication

The 1 Bit status indication function is used to send the last movement of the shutter or blind.

2. Configuration and settings

2.1 Inputs

2.1.1 Objects List

Object \ Function	ON / OFF	Toggle switch	Timer	1-button dimmer	2-button dimmer	1-button shutters / blinds	2-button shutters / blinds	Heating	Scene
ON / OFF	X	X		X	X				
Status indication		X		X		X			
Timer			X						
Dimming				X	X				
Stop / Angle						X	X		
Up / Down						X	X		
Set point selection								X	
Scene									X

2.1.2 Parameter setting

■ Parameter setting: Channel function

The product allows to control lighting, blinds, shutters, heating and scenes.

➜ Parameter Setting screen

Parameter	Description	Value
Channel function	This parameter allows selecting the function associated with each input.	Not used, Toggle switch, ON / OFF, Timer, 1-button dimmer, 2-button dimmer, Shutters / blinds, Heating, Scene Default function: Not used

■ Input function channel function: Lighting, Toggle switch

This function is used to switch the lighting circuit or any other load ON or OFF. Each new key-press modifies the output status.

Description:
After pressing the connected pushbutton, depending on the **Status indication** object, an **ON or OFF** command will be sent to the bus via the **ON / OFF** object.

■ Channel function: ON / OFF

This function is used to switch the lighting circuit or any other load ON or OFF. The ON or OFF command will be transmitted to the bus via the **ON / OFF** object. The command to be sent (ON or OFF) can be defined in the parameters.

- ON: Emission of the ON command when the input contact is closed (or when the input push button is pressed),
- OFF: Emission of the OFF command when the input contact is closed (or when the input push button is pressed),
- ON / OFF: Emission of the ON command when the input contact is closed (or when the input push button is pressed) and emission of the OFF command when the input contact is opened (or when the input push button is released),
- OFF / ON: Emission of the OFF command when the input contact is closed (or when the input push button is pressed) and emission of the ON command when the input contact is opened (or when the input push button is released).

Channel function: Dimming

This function is used to control lighting circuits using one or two buttons.
The 1 button dimmer and 2 buttons dimmer functions send the **ON / OFF** object after a short press.
A long press send the **Dimmer** object.
There are 2 different function types: 1-button dimmer or 2-button dimmer.

Channel function: 1-button dimmer
This function allows ON / OFF or Increase / Decrease controls using one push button.

Channel function: 2-button dimmer
This function allows ON or Increase controls using one push button, and OFF or decrease controls using a second push button.

Channel function: Shutters / blinds

This function controls shutters and blinds (Up, Down and slat angle adjustment for blinds).

There are 2 different functions:
- 1-button,
- 2-buttons,

Type of function: 1-button
This function controls shutters or blinds using one push buttons (Input).
Function change after each press (Down, Stop, Up, Stop). Slat angle adjustment is not possible here.

Type of function: 2-buttons
This function controls shutters or blinds using two push buttons (Input). One button for Up and one button for down.
The function transmit the **Up / Down** object (long key press) and the **Slat angle adjustment / Stop** object (short key press).

Channel function: Heating mode selection

This function is used select a heating setpoint. The operating modes are sent via the **Set point selection** object. The set point selection to be sent must be defined in the parameters.

- Comfort: Emission of the **Comfort** command when the input contact is closed (or when the input push button is pressed)
- Night set-point: Emission of the **Night set-point** command when the input contact is closed (or when the input push button is pressed),
- Frost protection: Emission of the **Frost protection** command when the input contact is closed (or when the input push button is pressed),
- Auto: Emission of the **Auto** command when the input contact is closed (or when the input push button is pressed),
- Standby: Emission of the **Standby** command when the input contact is closed (or when the input push button is pressed).

Channel function: Scene

The Scene function sends group controls to different kinds of outputs to create ambiences or scenarios (Panic switch, Television, etc.).
The value of the **Scene** object is defined by the **Scene number** parameter.
Scene 8 = Repetition

The **Repetition** finction enables the user to save the commands receives successively over a period of 24 h.
Once saved, the user can activate this function to have the sequence of stored commands repeated automatically, every 24 h period.
The command is sent by the object **Scene**. The recording of the daily sequence is activated or deactivated directly on the output module. To activate the **Repetition** function, link the scene number 8 from the emitter to the receiver object **Scene or Repetition**.

Channel function: Timer

This function operates like a staircase light function. The timer duration is set on the output module.

Feature:
- short key press (rising edge): Timer start,
- long key press (falling edge): Timer end.

The time is retriggered in the output by a recurrent short key press. Successive presses on the control button for the timer increase the timer's duration. The effective length will then be multiplied by the number of presses made during the 10 s following the first press.

2.2 Outputs

2.2.1 Objects List

WKT421

12	Output	Up / Down	1 bit	C	R	W	-	U	Low
13	Output	Slat angle / Stop	1 bit	C	R	W	-	U	Low
14	Output	Priority	2 bit	C	R	W	-	U	Low
15	Output	Alarm 1	1 bit	C	R	W	-	U	Low
16	Output	Alarm 2	1 bit	C	R	W	-	U	Low
17	Output	Scene	1 Byte	C	R	W	-	U	Low
18	Output	Status indication	1 bit	C	R	-	T	U	Low

WKT422 / WKT423

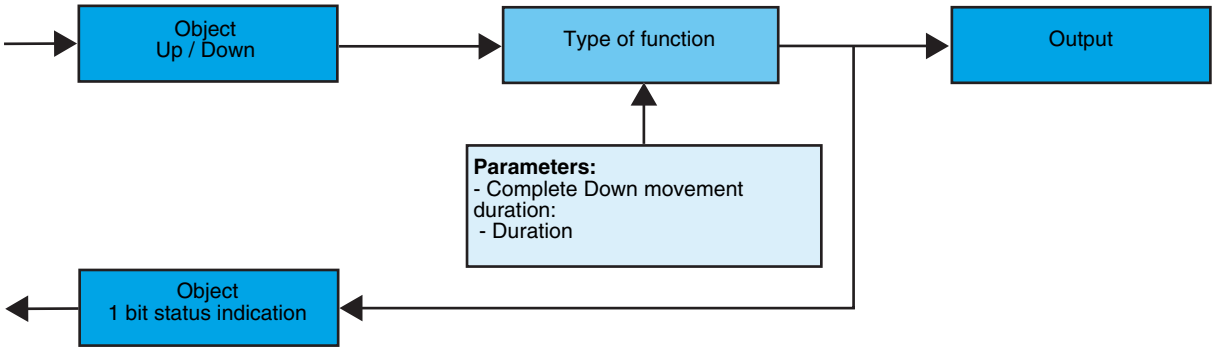
12	Output	Up / Down	1 bit	C	R	W	-	U	Low
13	Output	Slat angle / Stop	1 bit	C	R	W	-	U	Low
14	Output	Priority	2 bit	C	R	W	-	U	Low
15	Output	Alarm 1	1 bit	C	R	W	-	U	Low
16	Output	Alarm 2	1 bit	C	R	W	-	U	Low
17	Output	Scene or repetition	1 Byte	C	R	W	-	U	Low
18	Output	Status indication	1 bit	C	R	-	T	U	Low

2.2.2 Parameter setting

■ Up / Down and status indication

The Up / Down Function allows moving up or down a shutter, a blind with inclinable slats, an awning, a Venetian blind, etc.

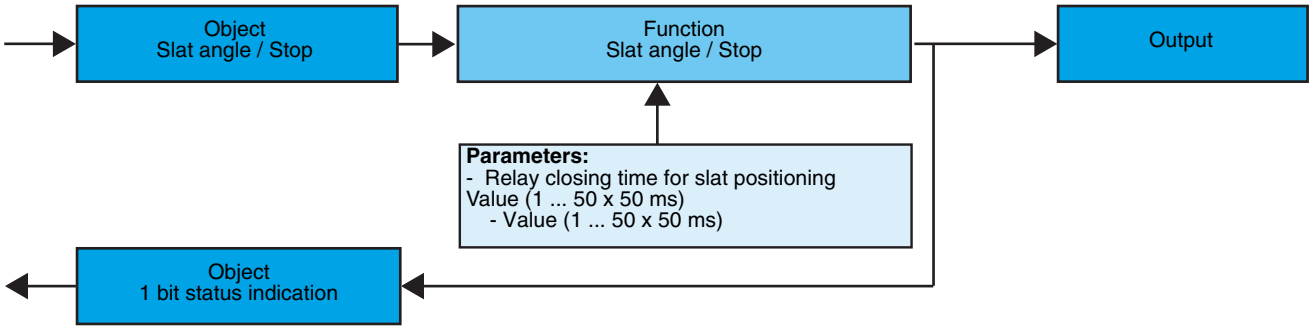
This function also allows opening and closing electric curtains.
The command may come from switches, pushbuttons or automatic controls.
Description of the **1 Bit status indiction** object:
0: last up movement.
1: last down movement.



Designation	Description	Values
Complete Down movement duration	This parameter defines the contact closing time for a complete down movement.	0 to 500 s in 1 s steps Default value: 120 s.

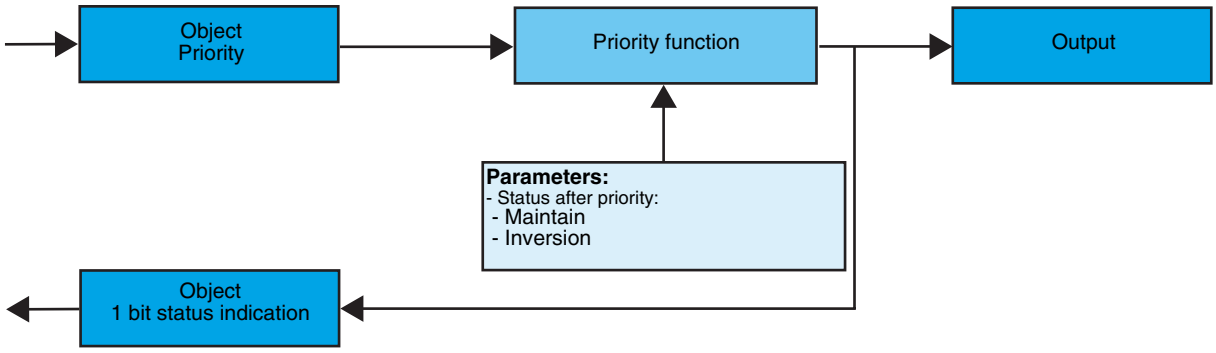
Slat angle / Stop function

The Slat angle / Stop function allows inclining the slats of a blind or stopping its current movement. This function allows modifying the occultation or the direction of the light beams coming from outside. This function is started by the **Slat angle / Stop object**.
The desired slant angle is obtained by a succession of control pulses.
The settings consist of programming the length of a press command that defines the number of presses to move from a slat angle of 0% to a slat angle of 100%.



Priority function

The Priority function allows forcing a shutter or a blind into a predefined position. This function is started by the **Priority** object.
This command has priority, but at a lower level than the alarms. No other command is taken into account if a priority is active.
Only end of priority or alarm commands will be taken into consideration.



➜ Description of the **Priority** object

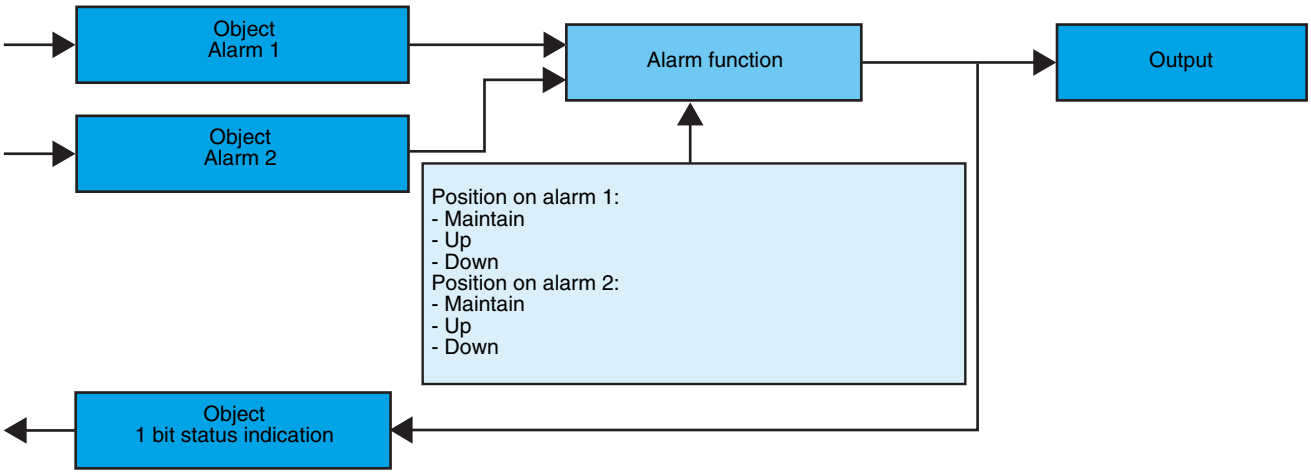
Value	Output behaviour
00	Priority end
01	Priority end
10	Priority ON (Up)
11	Priority OFF (Down)

➜ Parameter

Designation	Description	Values
Status after priority	This parameter defines the output status to be applied at the end of the Priority	Maintain, Inversion • Maintain: The output is maintained in the status which was active before the priority. • Inversion: Reversal of the status of the output in relation to that which existed before the priority (Down as opposed to Up, and Up as opposed to Down). Default value: Maintain.

Alarm 1 and Alarm 2 functions

The Alarm functions allow putting a shutter or a blind in a parametrisable predefined status. The wind alarm is triggered by the **Alarm 1** object and the rain alarm by the **Alarm 2** object. These functions have the highest priority. Alarm 1 has a higher priority than Alarm 2. No other command is taken into consideration if an Alarm is active. Only the end of the alarm enables again the other commands.



Designation	Description	Values
Position on alarm 1	This parameter defines the position of the shutter or blind when the Wind alarm is activated.	Maintain, Up, Down Default value: Maintain.
Position on alarm 2	This parameter defines the position of the shutter or the blind when the Rain alarm function is active.	Maintain, Up, Down Default value: Maintain.

2.3 Configuration with TR131 (ETS version ≥ 3.0f)

Configuration principle

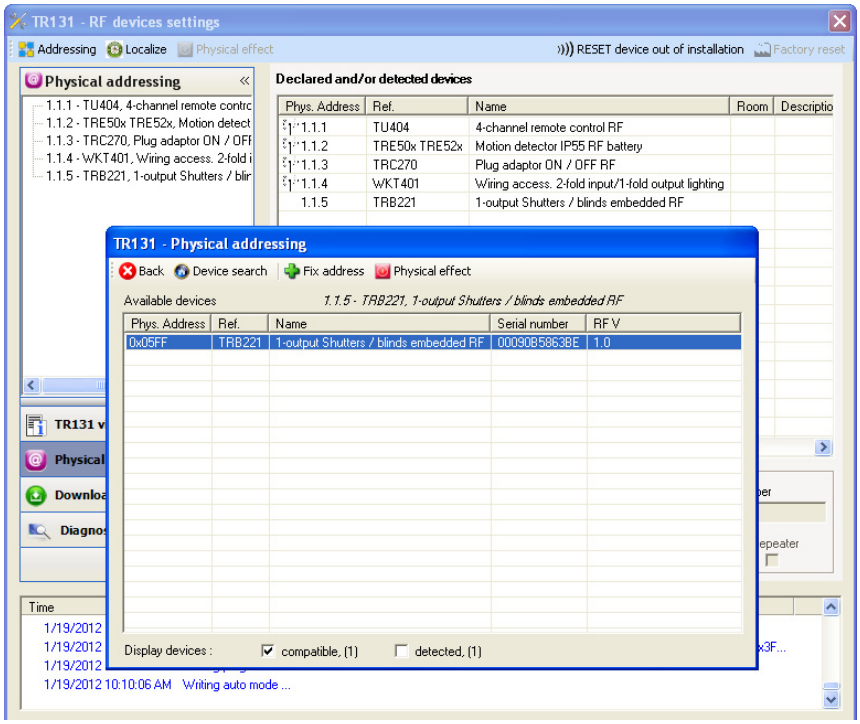
The TR131 media coupler enables confuguration by ETS of RF devices for a KNX radio installation or a mixed KNX installation including RF devices and wired buses. The radio emitters / receivers always function in bidirectional mode.

Procedure:

- Create a line reserved for RF devices in your ETS plan. First add the TR131 coupler to this line, then add the other RF devices to this line,
- Perform programming, parameter setting and group addressing for all the RF devices except for the TR131,
- Download the physical address of the TR131, which should be of the type 1.1.0. (should always end in zero),
- Install the Plug in for TR131: 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,
- Choose a product from the list and click on the **Addressing** button in the menu line at the top of the window,
- Click on **Product search**, the list of compatible products within radio range will be displayed. If the product is not found by the search, perform a **RESET device out of installation**. The factory reset may also be performed manually on a product by pressing the cfg button for >10 s,
- Select the desired product from the list generated by the search, then click the button **Fix address**,
- The physical addressing of the product is performed. The product is now part of the installation.



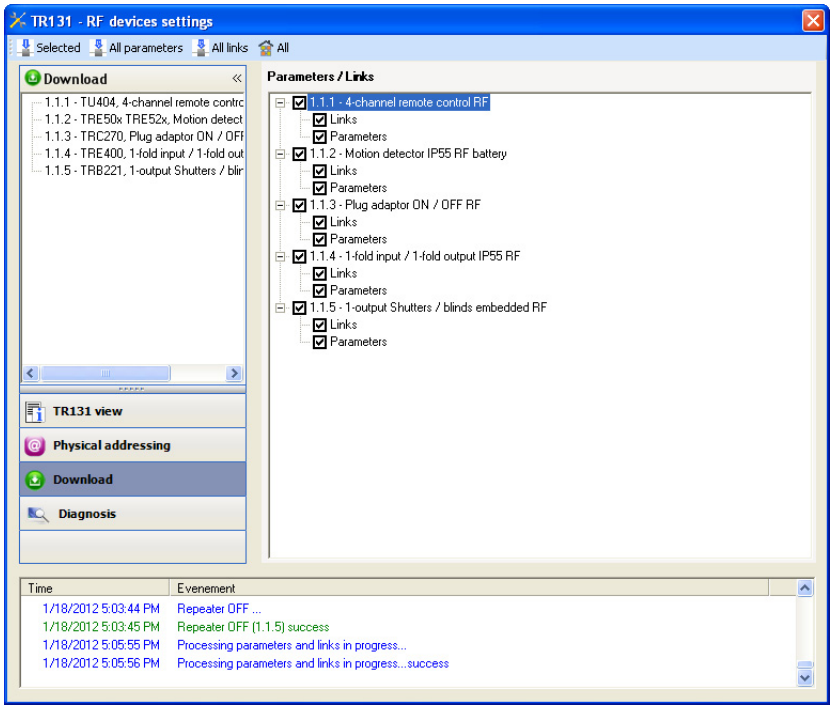
The **Physical effect** button enables the selected product to be identified and located.

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.

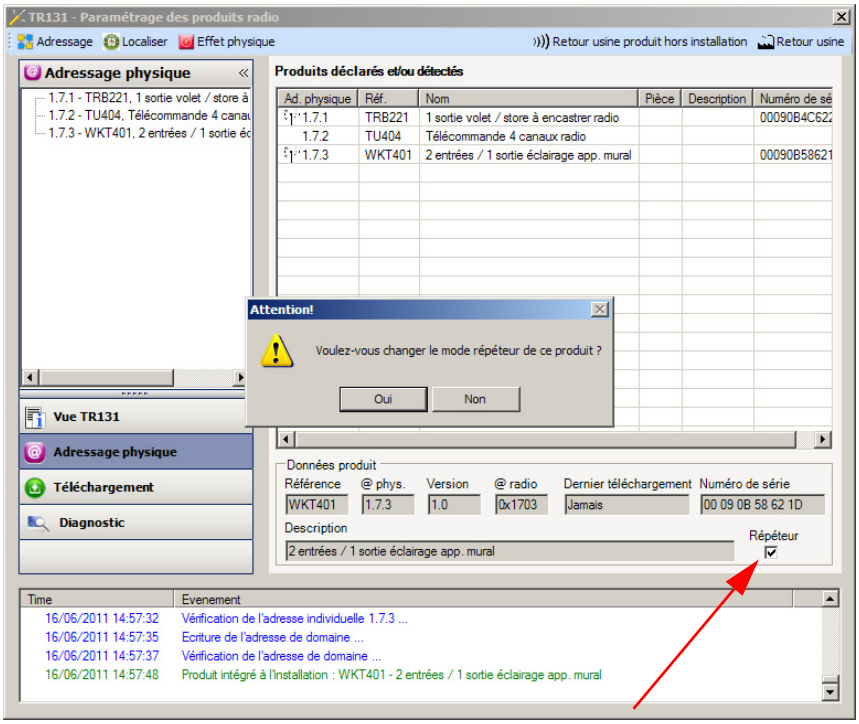
To test the functions and the KNX radio communication, return to normal use mode and wait 15 s before pressing a control button on a transmitter.



Caution: The plug in for TR131 must be deactivated during functional testing.

Repeater Function

It increases the radio range of the system by re-sending the messages received by the product.



To activate the Repeater function, tick the repeater box on the physical addressing screen of the product concerned.

3. Factory reset

This function enables the device to be returned to its initial configuration (configuration when it came out of the factory). After a device reset, the device can be re-used in a new installation. The factory reset can either be performed directly on the device, or via the TR131 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 TR131

- For a device that is part of the installation (known by the TR131): In the **Physical addressing** menu, select **Factory reset** and then follow the instructions which appear on the screen,
- For a device that is not part of the installation (not known by the TR131): In the **Physical addressing** menu, select **RESET device out of installation**, then select **Bi-directional product**.

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. Main characteristics

Product	WKT421	WKT422	WKT423
Max. number of group addresses	83	81	81
Max. number of links	90	90	90