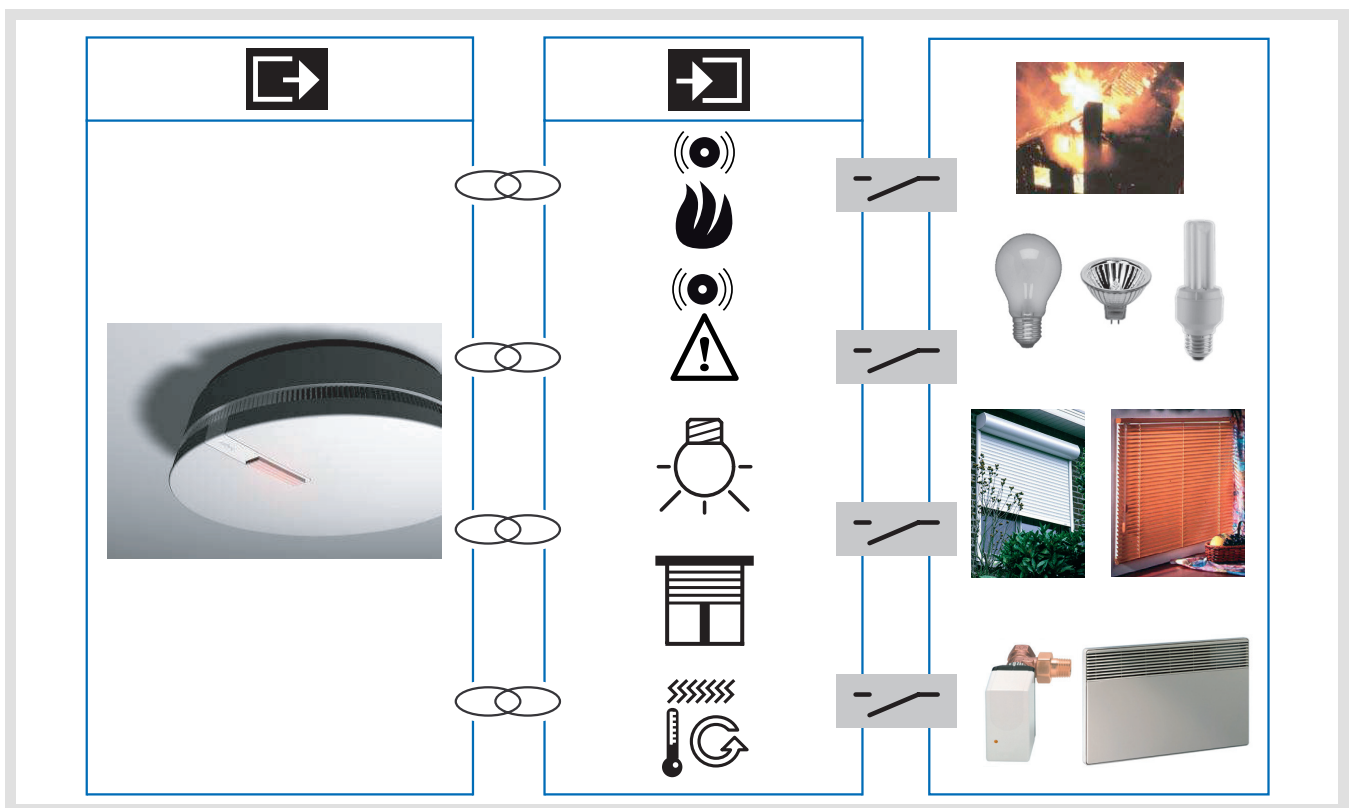


## Tebis smoke and heat detector function



Electrical / Mechanical characteristics: see product user manual  
*Tebis TX100 Configurator*

|  | Description | Designation                          | TX100 version | TP device  RF devices |
|--|-------------|--------------------------------------|---------------|-----------------------|
|  | TG510A      | Battery-operated smoke detector      | ≥ 2.6.0       |                       |
|  | TG511A      | Mains-powered smoke detector 230V AC | ≥ 2.6.0       |                       |
|  | TG540A      | Battery-operated heatstroke          | ≥ 2.6.0       |                       |
|  | TG541A      | Mains-powered heatstroke 230V AC     | ≥ 2.6.0       |                       |



### Summary

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## 1. Description of the KNX smoke and heat detector functions

The smoke or heat (temperature) detector plays a role in the protection of buildings against the risk of fire. If something is detected, they emit an audible alarm and send the information to the KNX system.

The smoke detector and heat detector can detect smoke or heat in different ways:

- Local detection (not integrated in a network)
- Detection by a network of cabled wired detectors
- Detection by a network of radio detectors

The following information is sent when smoke or heat is detected:

- Fire alarm information (smoke or temperature)
- Lighting, shutter, heating or scene controls

Two other types of information are available:

- Faulty product information (Faulty product)
- Low battery (for TG510A / TG540A only)

Commands emitted after the detection of a smoke or temperature alarm can be configured individually using the TX100 configurator. The main functions of the channel are as follows:

### ■ Emission of commands

- Lighting
  - ON, OFF, ON / OFF, Timer, Priority
- Shutters / blinds
  - Up, Down
- Heating
  - Stop, Comfort Priority or Frost protection

### ■ Scene

This function is used to emit scenes to different types of outputs. It is set up in TX100 Standard configuration mode, by creating links with suitable output products.

### ■ Priority

This function sends priority-start or priority-stop commands. The forcing action depends on the type of application controlled: Lighting, Heating.

### ■ Smoke fire alarm (only for TG510A / TG511A)

This function signals a fire alarm using a heat detector. The message is sent immediately if an alarm is signaled and is repeated every minute. Without an alarm, the detector emits one message per day to indicate that the product is functioning properly.

### ■ Temperature fire alarm (only for TG540A / TG541A)

This function signals a fire alarm using a heat detector. The message is sent immediately if an alarm is signaled and is repeated every minute. Without an alarm, the detector emits one message per day to indicate that the product is functioning properly.

### ■ Faulty product

This function signals that the product is faulty after a self-diagnosis (Faulty product or measurement chamber polluted). If a fault is signalled, a message is emitted immediately and is then repeated every 2 hours. When there is no fault, the detector sends a message each day to indicate that the product is functioning properly. There is no test function for this indication.

### ■ Integration into a smoke or heat detector network

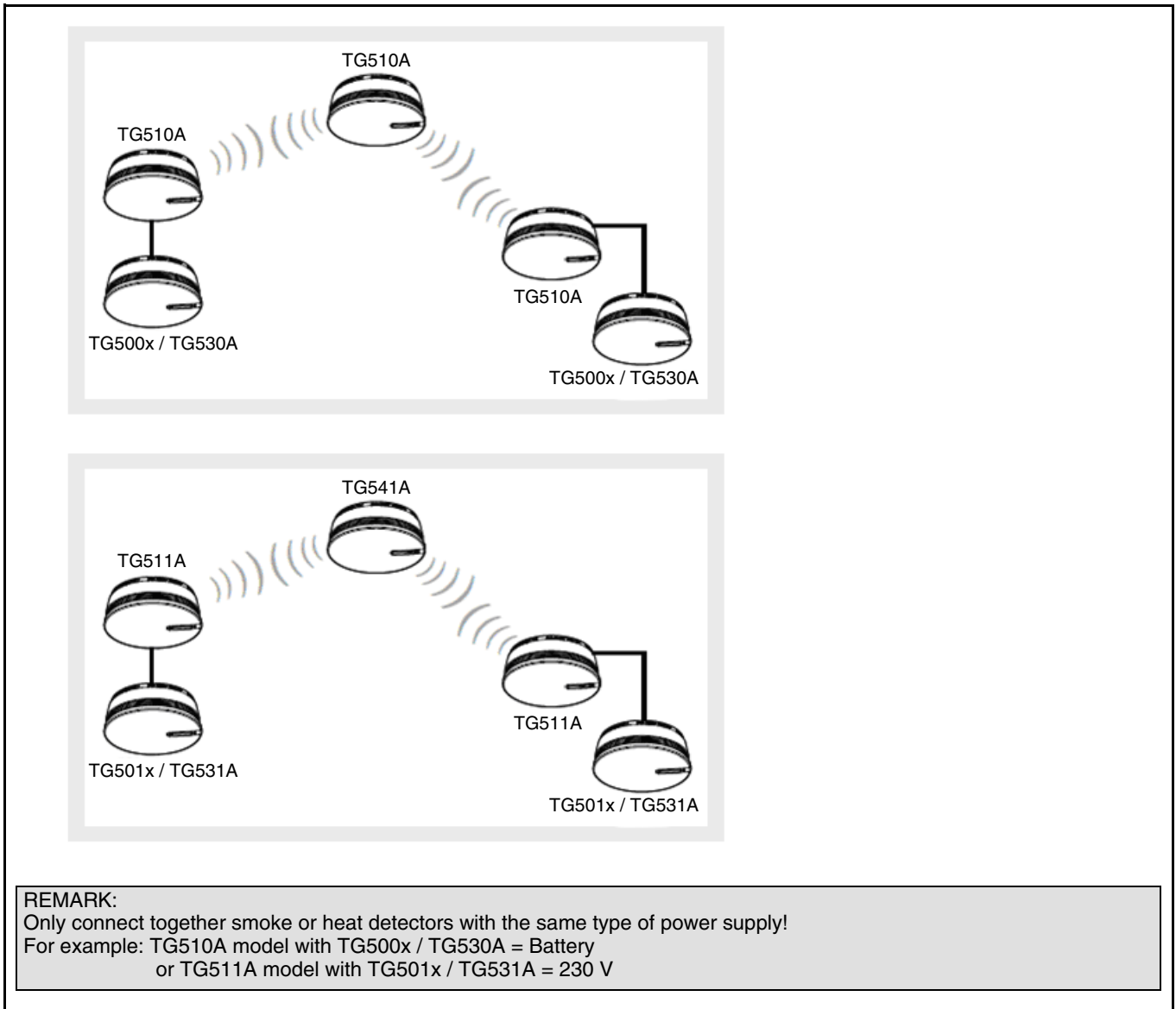
The smoke or heat detectors can be integrated into one of the following networks\*:

- Wired network
- Radio network
- Hybrid network (wired and radio)

The alarm messages can be exchanged among the detectors in the network.

\* For further information, see product user manual.

Example of several detectors positioned in the network.



Notes:


- To monitor a network of wired and/or radio detectors, **only one KNX detector** must be used in this network. In this case, if the alarm is triggered in this network, it is the KNX detector that will send the KNX lighting, shutter or heating commands and the alarm indication
- All the detectors, which in case, of a fire alarm being indicated should emit KNX commands that must be configured in KNX, even if they have already been configured and integrated into a network of smoke or heat detectors
- To identify each detector in the KNX system in a unique way, each detector must be connected to the KNX installation. Unit identification is only possible with radio detectors
- A factory reset of products by ETS only erases the KNX links. The existing links (non KNX) between the different detectors are not erased

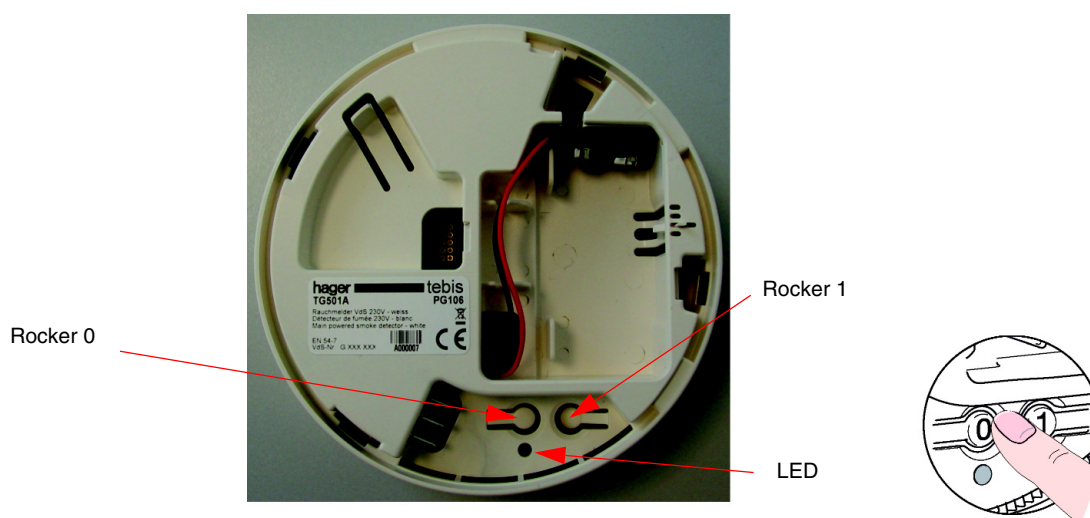
## 2. Configuration and parameters (standard settings)

### 2.1 Configuration of radio smoke or heat detectors

KNX Radio smoke or heat detectors.

A KNX configuration, a configuration change (modification of the function or the link) or erasing of the product can only take place if the smoke or heat detector has been switched to KNX configuration mode. The smoke or heat detectors **are configured one after the other**. Therefore two or more detectors must not be in configuration mode at the same time.

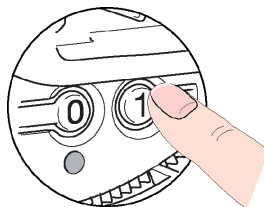
- Activating configuration mode
  - Switch the detector to KNX configuration mode by a long press (> 3 sec.) on the 0 button located at the rear of the smoke or heat detector. The red indicator stops flashing and stays permanently lit. To exit configuration mode on the detector, press the 0 button quickly or wait for 10 minutes
  - On the TX100, switch from "Auto" mode to "Prog" mode
  - Launch the TX100 Learning function by a long press on the  button






Remark:


- If the detector is not identified during the learning phase, a factory reset must be performed on the product. (See chapter 4)

- Numbering of the smoke or heat detector inputs. Each detector has 4 inputs: input 1, Alarm signalling, product fault signalling and Battery low indication(see Info mode for battery status indication).
- Select "Input" by going to the Num numbering mode to disconnect the TX100
  - Number input 1: a short press on button 1 located at the rear of the detector (see picture 1). An audible sound is emitted when the input key is detected. The TX100 automatically assigns a number to it
  - Number the fire alarm signalling input: a first long press (> 3 s) on button 1
  - Number the product fault signalling input: a second long press -> 3 s) on button 1

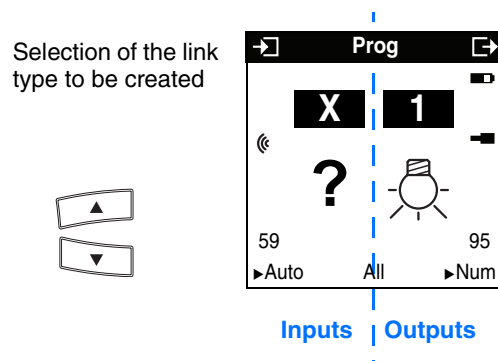



- Assigning a function (Configuration mode must be active)
  - Select the number of the input key required
  - Press 
  - Select the function and validate using 
  
- Assigning an output
  - Switch the TX100 to Prog mode to create a link between the detector and an output
  - Press the  button to select and validate the link
  
- Return to operating mode and test
  - Press button 0 quickly to switch the detector to operating mode (remark: after 10 minutes without activity the detector automatically switches to this mode)
  - Once in operating mode, wait 30 s and then perform the test
  - Switch the TX100 to auto mode
  - Press the 1 button on the detector to test the configuration
  
- Modifying the configuration of the radio smoke or heat detector
  - Press and hold button 0 (> 3 s) to switch the detector to KNX configuration mode, as described above
  - Carry out the desired modifications (functions or links). First erase the existing links and then proceed as for a configuration. NB. to modify a function, switch to Num mode

## 2.2 Lighting mode






The Lighting functions are used to command the Lighting functions represented by the  symbol on the right-hand half of the screen. Refer to the configuration instructions of the various lighting output products for the installation and configuration of these products.



After numbering the inputs, the functions and links available appear in the left-hand part of the TX100 screen.



The  symbol indicates that it is a radio input. To select the functions, switch to the numbering mode.

The table below describes the types of link available for this product.

| Possible link type  |           | Link description  | Output operation   |
|---|-----------|---|--|
|   | ON        | The ON function switches the lighting circuit ON.   | Triggering of the fire alarm*<br>→ Closing of the output contact<br><br>Successive messages hold the output contact closed.  |
|  | OFF       | The OFF function switches the lighting circuit OFF.   | Triggering of the fire alarm*<br>→ Opening of the output contact<br><br>Successive messages hold the output contact open.    |
|  | Switch    | The Switch function switches the lighting circuit ON or OFF.  | Triggering of the fire alarm*<br>→ Closing of the output contact<br><br>End of fire alarm<br>→ Opening of the output contact |
|  | Timer ON  | The Timer ON function is used to switch on the lighting circuit for a configurable period.<br><br>Select the time delay after confirming the link: setting range of [0sec to 24h]<br><br>Not active, 1 s, 2 s, 3 s, 5 s, 10 s, 15 s, 20 s, 30 s, 45 s, 1 min, 1 min 15 s, 1 min 30 s, 2 min, 2 min 30 s, 3 min, 5 min, 15 min, 20 min, 30 min, 1 h, 2 h, 3 h, 5 h, 12 h, 24 h     | Triggering of the fire alarm*<br>→ Delayed closure of the output contact for a configurable period                           |
|  | Timer OFF | The Timer OFF function is used to switch off the lighting circuit for a configurable duration.<br><br>Select the time delay after confirming the link: setting range of [0sec to 24h]<br><br>Not active, 1 s, 2 s, 3 s, 5 s, 10 s, 15 s, 20 s, 30 s, 45 s, 1 min, 1 min 15 s, 1 min 30 s, 2 min, 2 min 30 s, 3 min, 5 min, 15 min, 20 min, 30 min, 1 h, 2 h, 3 h, 5 h, 12 h, 24 h | Triggering of the fire alarm*<br>→ Delayed opening of the output contact for a configurable period                           |

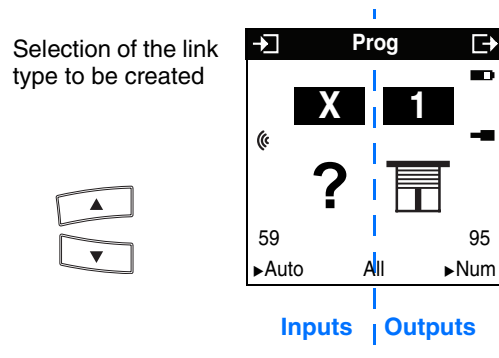
| Possible link type  |              | Link description  | Output operation  |
|---|--------------|---|---|
|    | Priority ON  | The Priority ON function is used to override the lighting function to on and maintain it lighted.         | <p>Triggering of the fire alarm*<br/>→ Output ON priority</p> <p>End of fire alarm<br/>→ Cancelling priority</p> <p>This command has the highest priority.</p> <p>Only a cancellation command for the priority can end the priority and authorise other commands to be followed again.</p> <p>After confirmation of the link, select the behaviour following cancellation of the priority</p> <ul style="list-style-type: none"> <li>• Maintain the output value: the contact is maintained in the same status as during priority</li> <li>• Reverse the output value: the contact is reversed in relation to the status that was active during priority</li> </ul> <p>A priority is also cancelled by another Priority command.</p>  |
|  | Priority OFF | The Priority OFF function is used to override the lighting circuit to off and maintain it in this status. | <p>Triggering of the fire alarm*<br/>→ Output OFF priority</p> <p>End of fire alarm<br/>→ Cancelling priority</p> <p>This command has the highest priority.</p> <p>Only a cancellation command for the priority can end the priority and authorise other commands to be followed again.</p> <p>After confirmation of the link, select the behaviour following cancellation of the priority</p> <ul style="list-style-type: none"> <li>• Maintain the output value: the contact is maintained in the same status as during priority</li> <li>• Reverse the output value: the contact is reversed in relation to the status that was active during priority</li> </ul> <p>A priority is also cancelled by another Priority command.</p> |

\* Smoke or heat detector.

## 2.3 Shutters / Blinds function

The Shutters / Blinds function commands Shutters / Blinds outputs symbolized by the icon in the right part of the display. Refer to the configuration manuals for the various Shutters / Blinds output devices for information on installing and configuring these devices.

After numbering the inputs, the functions and links available appear in the left-hand part of the TX100 screen.



The Ⓒ symbol indicates that it is a radio input. To select the functions, switch to the numbering mode.

The table below describes the types of link available for this product.

| Possible link type |      | Link description   | Output operation   |
|--------------------|------|--|--|
|                    | Up   | The Up function is used to raise a rolling shutter or blind.   | Following the triggering of the fire alarm, an Up message is sent.*  |
|                    | Down | The Down function is used to lower a rolling shutter or blind. | Following the triggering of the fire alarm, a Down message is sent.* |

\* Smoke or heat detector.



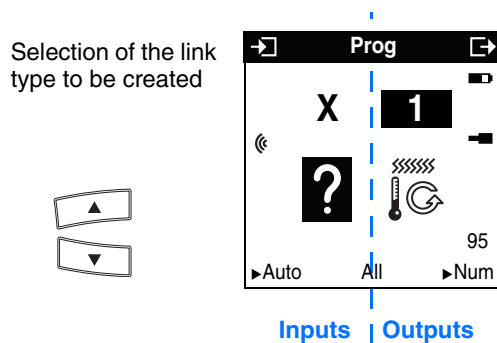
## 2.4 Heating / Air-Conditioning function

The Heating / Air-Conditioning functions command a thermostat or a regulator symbolized by the icon on the right part of the display. See the configuration manuals for the thermostats or ambient temperature regulators and the regulators for installation and configuration of these products.

After numbering the inputs, the functions and links available appear in the left-hand part of the TX100 screen.

To select the functions, switch to the numbering mode.

The table below describes the types of link available for this product.



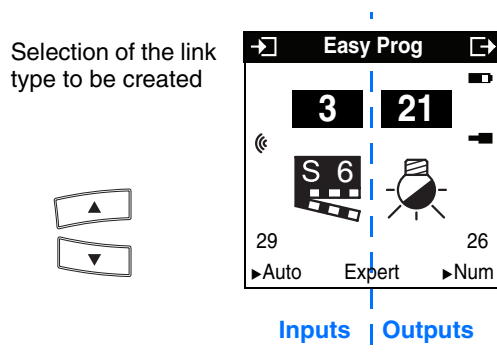
| Possible link type |                           | Link description  | Output operation   |
|--------------------|---------------------------|---|--|
|                    | Stop                      | The Stop function is used to stop the heating or air conditioning.  | <p>Triggering of the fire alarm leads to the shut-down of the heating and air conditioning.*</p> <p>The end of the alarm message causes the cancellation of the Stop function and return to normal active mode. The Stop function has the highest priority. Only the cancellation command for the Stop function can stop the latter and authorise other subsequent commands to be taken into account again.</p> <p>During activation of the Stop function, regulation is carried out according to the thermal protection setpoint value: frost protection setpoint for the heating and frost protection and thermal protection setpoints for the air conditioning.</p> |
|                    | Comfort Priority          | The Comfort Priority function is used to activate and maintain the Comfort type of command.                   | <p>The triggering of the fire alarm causes activation of the Comfort type of command (priority).*</p> <p>End of message<br/>→ Cancelling priority</p> <p>As soon as the priority is ended, commands can once more be executed with low priority. Cancelling the priority leads to return to the output type of commands. This command can also be cancelled by activating any other priority command (frost protection) or a Stop command.</p>   |
|                    | Priority frost protection | The Frost Protection Priority function is used to activate and maintain the Frost protection type of command. | <p>The triggering of the fire alarm is used to activate the Frost protection type of command (priority).*</p> <p>End of message<br/>→ Cancelling priority</p> <p>As soon as the priority is ended, commands can once more be executed with low priority. Cancelling the priority leads to return to the output type of commands. This command can possibly be cancelled by another priority command (Comfort) or by a Stop command.</p>  |

\* Smoke or heat detector.

## 2.5 Scene function

### ■ Link creation

By selecting a Scene function (numbers 1 to 8) the links between a smoke or heat detector and the outputs to be included in the scene can be created.



| Possible link type | Link description  | Output operation   |
|--------------------|---|--|
| S 1<br>...<br>S 8  | Scene 1 to 8<br><br>A scene is used to control a group of outputs. These outputs can be switched to a predefined status. A Scene is activated by a smoke or heat detector. Each output can be integrated in 8 different scenes. | The status of each output can be defined: <ul style="list-style-type: none"> <li>• By output settings</li> <li>• Via learning, with the push buttons on the installation or on the front of certain devices</li> </ul> |

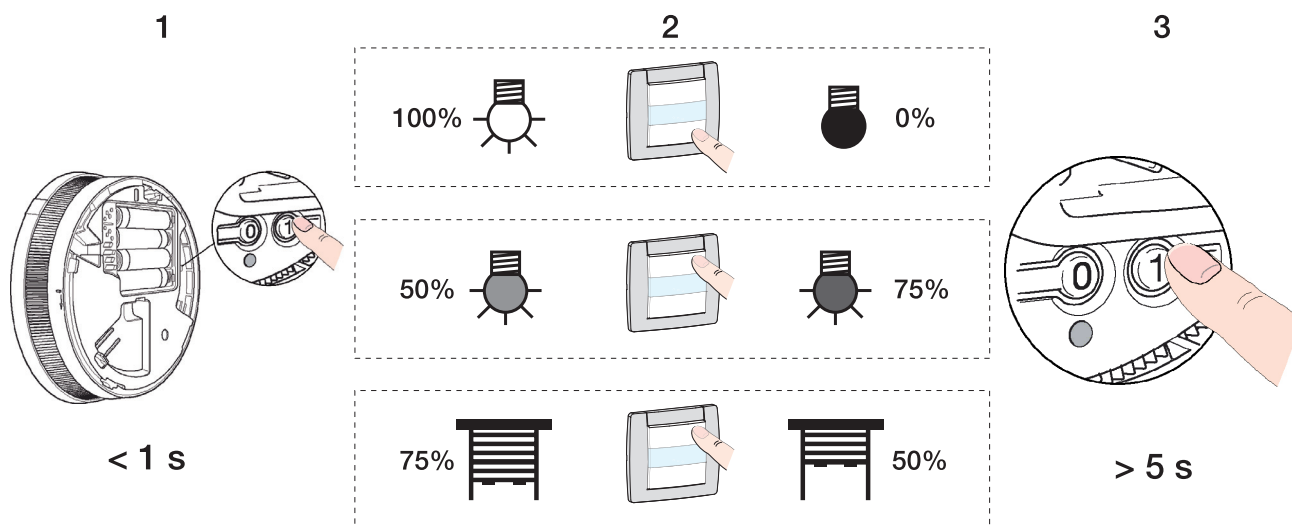
### ■ Output configuration by parameterisation

See user manuals for the different outputs.

### ■ Configuration by learning and scene storing

A scene can be modified and memorised as follows.

- Activate the scene by a short press on the 1 button on the detector or on the button triggering the scene
- Set the outputs (lighting, rolling shutters, thermostat, regulator, etc.) to the desired status using the usual local manual commands (detector, remote control) or by activating the buttons located on the front of certain products (for further information, see the configuration manuals for the corresponding products)
- Memorise the status of the outputs by pressing the 1 button on the smoke or heat detector for more than 5 sec. or by pressing the button on the detector triggering the scene. The memorisation is indicated by the momentary activation of the outputs



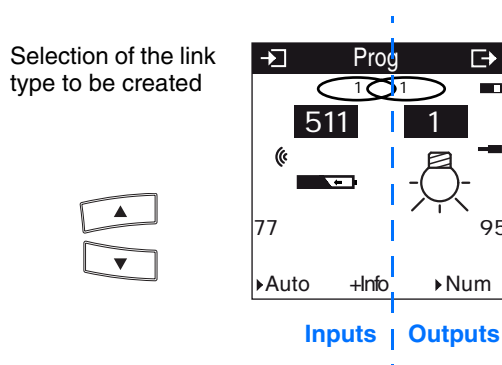
### 3. "+ info" and "expert" mode of the TX100

#### 3.1 mode "Info"

##### Low battery

The smoke and heat detectors supply an additional input presenting the following information: low battery. It is indicated by the symbol on the TX100 screen. This input is numbered in decreasing order starting from 511. It is accessible from the "+ Info" filter in TX100 "prog" mode.

- Create a "low battery" link
  - Press the or keys to select the low battery input and an output
  - Press for a long time to confirm the link



The detector sends this information on start-up (when batteries are fitted) or every 12 hours or by pressing the "1 button" if the battery level is low. The program remains saved when the batteries are changed.

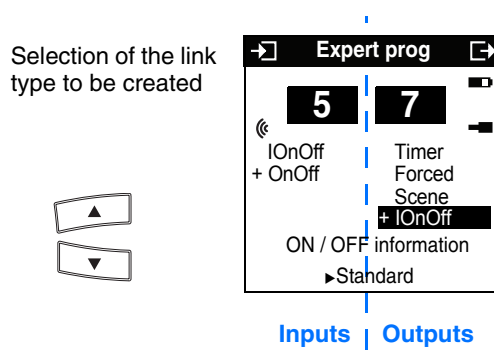
#### 3.2 Expert mode

##### General points

The Expert mode allows:

- The integration of KNX products into the installation which cannot be configured by TX100 (domovea, etc.)
- Specific links, not available in the Standard configuration mode, to be created
- Additional functions to be programmed: to design programming in standard mode as clearly as possible, not all the functions of a product are programmable on a case by case basis in this mode. For this, special solutions partly exist by integrating Expert mode

In Expert mode, the functions are displayed through the communication objects used in the configuration ETS mode. The objects appear as a list located under the input and output numbers. Only objects with the same format can be linked.



List of objects available in Expert mode

| Designation TX1<br>00 | Designation ETS | Function | Format | Description |
|-----------------------|-----------------|----------|--------|-------------|
|-----------------------|-----------------|----------|--------|-------------|

Input 1 object: On Off lighting command

|        |                |                      |       |   |
|--------|----------------|----------------------|-------|---|
| OnOff  | ON / OFF       | ON / OFF             | 1 bit | Allows an ON / OFF command to be transmitted. |
| IOnOff | On / Off info  | ON / OFF information | 1 bit | Not used.                                     |
| Timer  | TimedStartStop | Timer                | 1 bit | Used to activate or interrupt a timer.        |
| Forced | Forced         | Priority             | 2 bit | Forces an output.                             |

Input 1 object: command of rolling shutters/blinds

|          |          |              |       |  |
|----------|----------|--------------|-------|--|
| StepStop | StepStop | Stop / Angle | 1 bit | Used to modify the position of the slats in a blind or stop raising or lowering. |
| UpDown   | UpDown   | Up / Down    | 1 bit | Sends an Up or Down command for a roller shutter or a blind.                     |

Input 1 object: heating/air conditioning commands

|         |                |                      |       |   |
|---------|----------------|----------------------|-------|---|
| HvacEna | HeatingEnabled | Heating stopped      | 1 bit | Used to switch off the heating or air conditioning.   |
| Forced  | Forced         | Priority             | 2 bit | Used to override a heating operating mode (Comfort) or air conditioning (Frost protection). |
| IOnOff  | On / Off info  | ON / OFF information | 1 bit | Not used.   |

Other objects 1: scene

|       |             |       |        |                                    |
|-------|-------------|-------|--------|------------------------------------|
| Scene | SceneNumber | Scene | 1 byte | Activates the scene by its number. |
|-------|-------------|-------|--------|------------------------------------|

Other objects: fire alarm, product fault message, battery status

|                                  |                      |                     |       |   |
|----------------------------------|----------------------|---------------------|-------|---|
| SmokeAlm TG51x<br>Fire Alm TG54x | SmokeAlm<br>Fire Alm | Fire alarm          | 1 bit | Used to signal a fire alarm command.                                  |
| FaultyProd                       | FaultyProd           | Product fault alarm | 1 bit | Used to signal a product fault alarm by a 1 bit command.              |
| BattStat                         | BattStat             | Battery Status      | 1 bit | Used to indicate the charging status of a battery: ok or low battery. |


## 4. Factory reset + Characteristics

### ■ 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.

Factory reset: the product is part of the installation



This function is accessible via the TX100's Device Management / Reset menu. The product appears in the list.

- Set the smoke/heat detector to KNX configuration mode by pressing and holding down the 0 button (> 3 sec.)
- Select the product from the list, press on the  key and activate the Factory reset function

To be able to use the product once more, the learning process must be started again in TX100.

### ■ Factory reset: the product is not part of the installation.

This function is accessible via the TX100's Device Management / Reset menu.

- Select "Product out of installation" and confirm by pressing on "bi-directional RF"
- Set the smoke/heat detector to configuration mode by pressing and holding down the 0 button (> 3 s sec.). If you wish to perform factory resets on several products you must switch the latter to configuration mode one after the other. You  now have 15 s to activate the factory reset on the TX100: press 
- The factory reset is confirmed by a "short beep"

To be able to use the product once more, the learning process must be started again in TX100.

### ■ Characteristics

| Product                        | TG510A | TG511A | TG540A | TG541A |
|--------------------------------|--------|--------|--------|--------|
| Max. number of group addresses | 32     | 32     | 32     | 32     |
| Max. number of links           | 50     | 50     | 50     | 50     |

