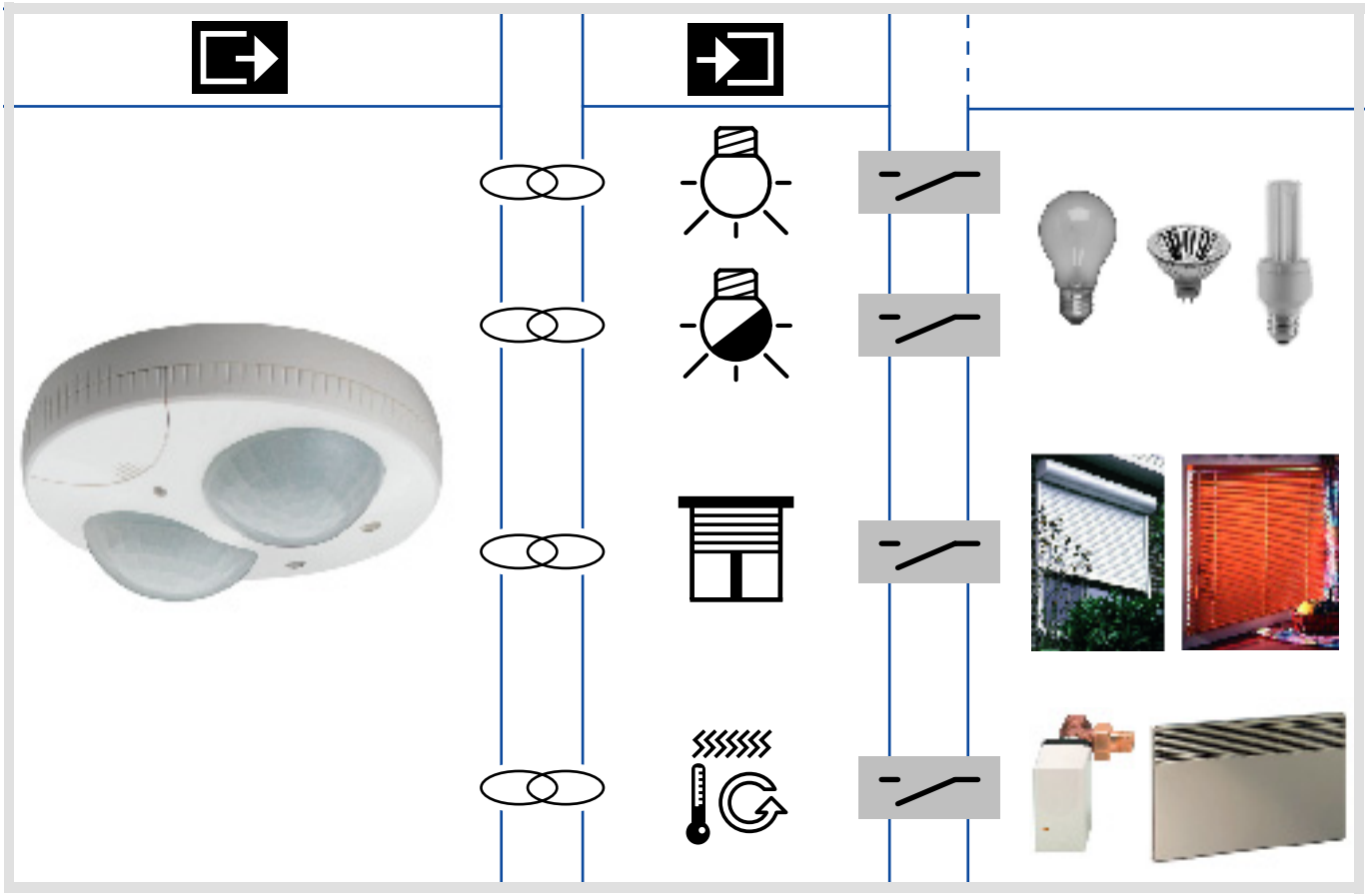
Tebis TX100 Configurator

Description of 2-channel 360° presence detector

Electrical/Mechanical characteristics: see user's instructions

	Product reference	Product designation	TX100 version	TP device RF device
	TX510	2-channel 360° presence detector	≥ 1.8.0	



Summary

1. Presentation of the 2-channel 360° presence detector's functions

The main functions are the following:

Presence detection and brightness measurement

The TX510 2-channel presence detector is sensitive to infrared rays associated with heat emitted by moving bodies. Lighting, roller shutter / blind, heating, priority and scene commands can be sent during movement detection, depending on the ambient brightness.

Lighting channel

The lighting channel controls a load in case of movement detection, when the ambient brightness is below an adjustable threshold.

Presence channel

The presence channel controls a load in case of presence detection, without taking account of the ambient brightness.

Ambient brightness threshold

The ambient brightness threshold is set directly on the device via a potentiometer.

Lighting and monitoring delay

This function sends a command at the end of a delay when no presence has been detected during the delay ("absence" of persons). The delay value can be set via a potentiometer mounted onto the device.

Semi-automatic or Automatic mode, override command (Lighting channel)

The operating mode (Automatic or Semi-automatic) is selected via a switch directly on the device.
In Automatic operation, detection is performed according to the movements.
In Semi-automatic operation, a command on the override input must be actuated to activate Presence mode and detection.

Master/Slave

This function extends the movement detector's detection zone by associating it with several other detectors.
The slave movement detectors capture movement (without taking account of the ambient brightness) and transmit the movement information to the master detector.

Scene execution

The Scene Execution function sends group commands to different kinds of outputs to create ambiences or scenarios (presence scenario, absence scenario, ...).

The TX510 can be configured as Master or Slave.

2. Master/Slave configuration and channel numbering

Master operation:
The master detector sends commands according to the movements (detected by the detector itself or by a slave detector) and the ambient brightness.

Slave operation:
The slave movement detectors capture movement (without taking account of the ambient brightness) and transmit the movement information to the master detector.

To configure the TX510 as Master and to number the channels:

- Make sure that the TX510's \"Lux\" potentiometer is set on a position other than ON.
- Perform a long key-press on the  key to perform learning of all input and output devices available in the installation.
- Wait for the end of the learning procedure: the product is now configured as Master.
- Presence channel numbering:
  Numbering is performed in the TX100's Num mode, the lighting delay potentiometer must be set to the "immediate P triggering" position (actuate the potentiometer and reset it to P if it was already in that position).

  The Presence channel number and the **?** icon are displayed when it beeps.
- Lighting channel numbering:
  Numbering is performed in the TX100's Num mode, the lighting delay potentiometer must be set to "Test" position (actuate the potentiometer and reset it to "Test" if it was already in that position).

  The Presence channel number and the **?** icon are displayed when it beeps.

To configure the TX510 as Slave and to number the channels:

- Set the TX510's \"Lux\" potentiometer on ON.
- Perform a long key-press on the  key to perform learning of all input and output devices available in the installation.
- Wait for the end of the learning procedure: the device is now configured as Slave.
- Presence channel numbering:
  Numbering is performed in the TX100's Num mode, the lighting delay potentiometer must be set to the "immediate P triggering" position (actuate the potentiometer and reset it to P if it was already in that position).

  The Presence channel number and the **?** icon are displayed when it beeps.
- Slave channel numbering:
  Numbering is performed in the TX100's Num mode, the lighting delay potentiometer must be set to "Test" position (actuate the potentiometer and reset it to "Test" if it was already in that position).

  The Slave channel number and the  icon are displayed when it beeps.

  This  icon confirms that the detector is indeed in Slave mode.
  The Slave channel is used to connect the device to a Master detector

Note:
To modify the Master configuration to Slave or vice-versa, the product must be reset to Factory configuration: See Chapter “Restore Factory Configuration function (Reset)”
The device can then be reconfigured as Master or Slave.

3. Function configuration and link creation in Standard mode

After configuration as Master or as Slave and channel numbering, a function can be assigned to the Presence channel (Master or Slave detector) and to the Lighting channel (Master detector only) for controlling the outputs:

- Lighting control:
  ON, OFF, ON/OFF, Timer.
  Dimming to a pre-defined level: 25%, 50%, 75%, 100%.
  Priority

- Roller shutter / Blind control:
  Up, Down, Up/Down.
  Priority

- Heating / Air-Conditioning control:
  Heating setpoint selection, Frost protection, Stop.
  Priority

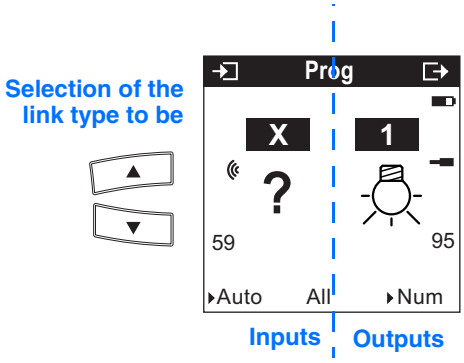
- Scene controls

These functions are available in the TX100's Standard configuration mode by creating links with the appropriate output devices.

3.1 On/Off Lighting functions

The On/Off Lighting functions command the On/Off Lighting outputs symbolized by the icon on the right part of the display. Information about installing and configuring the various Lighting output devices can be found in the user's instructions for these devices.

After channel numbering, the available functions and links will appear on the left part of the TX100 display.



The table below presents the link types compatible with the device.

Possible link type		Link description	Output operation
	ON	The ON function switches the lighting circuit ON.	A valid presence detection * closes the output contact.
	OFF	The OFF function switches the lighting circuit OFF.	A valid presence detection * opens the output contact.
	Switch	The Switch function switches the lighting circuit ON or OFF.	A valid presence detection * closes the output contact. Each valid detection restarts the switch-off delay**. The output contact opens at the end of the delay if no movement has been detected.
	Timer ON	The Timer ON function switches the lighting circuit on for an adjustable time. Select the delay time after confirming the link: Setting range [0 s 24 h]: 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. Default value: 1 min	A valid presence detection * causes delayed closure of the output contact. The contact opens at the end of the timer delay. The delay set on the TX510 is added to the delay defined on the output module.

Possible link type		Link description	Output operation
	Timer OFF	The Timer OFF function switches the lighting circuit off for an adjustable time. Select the delay time after confirming the link: Setting range [0 s 24 h]: 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. Default value: 1 min	A valid presence detection * causes delayed opening of the output contact. The contact closes at the end of the timer delay.
	Priority ON	The Priority ON function forces the lighting circuit ON and maintains it ON.	A valid presence detection * forces the output ON. Switching to Absence cancels the priority. Priority is the function with the highest priority. Only a Priority Cancellation command ends the priority and re-authorises lower-priority bus commands to be taken into account. After confirming the link, select the behaviour to follow Priority Cancellation: Maintain: The contact is maintained in the same status as during Priority. Inversion: The contact is inverted in relation to the status active during Priority. A priority is also cancelled by another Priority command.
	Priority OFF	The Priority OFF function forces the lighting circuit OFF and maintains it OFF.	A valid presence detection * forces the output OFF. Switching to Absence cancels the priority. Priority is the function with the highest priority. Only a Priority Cancellation command ends the priority and re-authorises lower-priority bus commands to be taken into account. After confirming the link, select the behaviour to follow Priority Cancellation: Maintain: The contact is maintained in the same status as during Priority. Inversion: The contact is inverted in relation to the status active during Priority. A priority is also cancelled by another Priority command.

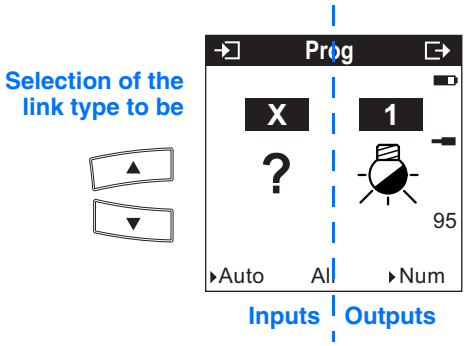
* Valid presence detection:
  - For the Lighting channel: Presence detected and ambient brightness below threshold.
  - For the Presence channel: Presence detected, whatever the ambient brightness.

** Switch-off delay: Can be set separately for the Lighting channel and the Presence channel via a potentiometer on the device.

3.2 Dimmer Lighting functions

The Dimmer Lighting functions command the Dimmer Lighting output symbolized by the icon on the right part of the display. Refer to the configuration manuals for the various Dimmer Lighting output devices for information on installing and configuring these devices.

After channel numbering, the available functions and links will appear on the left part of the TX100 display.



The table below presents the link types compatible with the device.

Possible link type		Link description	Output operation
	ON	The ON function switches the lighting circuit ON.	A valid presence detection * switches on the light at the last level stored.
	OFF	The OFF function switches the lighting circuit OFF.	A valid presence detection * switches off the light to 0%.
25%	Level 25%	Switching on the light to 25%.	A valid presence detection * switches on the light to 25%.
50%	Level 50%	Switching on the light to 50%.	A valid presence detection * switches on the light to 50%.
75%	Level 75%	Switching on the light to 75%.	A valid presence detection * switches on the light to 75%.
100%	Level 100%	Switching on the light to 100%.	A valid presence detection * switches on the light to 100%.
	Switch	The Switch function switches the lighting circuit ON or OFF.	A valid presence detection * switches on the light at the last level stored. Each valid detection restarts the switch-off delay**. The light is switched off to 0% at the end of the delay if no presence has been detected.

Possible link type		Link description	Output operation
	Timer ON	The Timer ON function switches the lighting circuit on for an adjustable time. Select the delay time after confirming the link: Setting range [0 s 24 h]: 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. Default value: 1 min	A valid presence detection * switches on the light at the last level stored. The light is switched off to 0% at the end of the delay if no presence has been detected. The delay set on the TX510 is added to the delay defined on the output module.
	Timer OFF	The Timer OFF function switches the lighting circuit off for an adjustable time. Select the delay time after confirming the link: Setting range [0 s 24 h]: 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. Default value: 1 min	A valid presence detection * switches on the light to 0%. At the end of the timer delay, the light is switched on at the last level stored.
	Priority ON	The Priority ON function forces the lighting circuit ON and maintains it ON.	A valid presence detection * forces the output ON. Switching to Absence cancels the priority. The ON priority switches the light ON to 100%, whatever the level stored. Priority is the function with the highest priority. Only a Priority Cancellation command ends the priority and re-authorises lower-priority bus commands to be taken into account. After confirming the link, select the behaviour to follow Priority Cancellation: Maintain: The output is maintained in the same status as during Priority. Inversion: The output is inverted in relation to the status active during Priority. A priority is also cancelled by another Priority command.

Possible link type		Link description	Output operation
	Priority OFF	The OFF Priority function forces the lighting circuit OFF and maintains it OFF.	A valid presence detection * forces the output OFF. Switching to Absence cancels the priority. The OFF priority switches the light off to 0%, whatever the stored level. Only a Priority Cancellation command ends the priority and re-authorises lower-priority bus commands to be taken into account. After confirming the link, select the behaviour to follow Priority Cancellation: Maintain: The output is maintained in the same status as during Priority. Inversion: The output is inverted in relation to the status active during Priority. A priority is also cancelled by another Priority command.

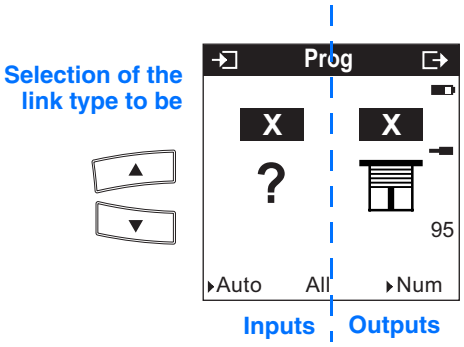
* Valid presence detection:
  - For the Lighting channel: Presence detected and ambient brightness below threshold.
  - For the Presence channel: Presence detected, whatever the ambient brightness.

** Switch-off delay: Can be set separately for the Lighting channel and the Presence channel via a potentiometer on the device.

3.3 Roller shutters / Blinds function

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

After channel numbering, the available functions and links will appear on the left part of the TX100 display.



The table below presents the link types compatible with the device.

Possible link type		Link description	Output operation
	Up	The Up function raises a roller shutter or a blind.	A valid presence detection * causes delayed closure *** of the Up output contact (Up function for a roller shutter or a blind).
	Down	The Down function lowers a roller shutter or a blind.	A valid presence detection * causes delayed closure *** of the Down output contact (Down function for a roller shutter or a blind).
	Up/Down	The Up/Down function raises or lowers a roller shutter or a blind.	A valid presence detection * causes delayed closure *** of the Up output contact (Up function for a roller shutter or a blind) and switching to Absence mode at the end of the switch-off delay ** causes delayed closure *** of the Down output contact (Down function for a roller shutter or a blind).
	Down/Up	The Down/Up function lowers or raises a roller shutter or a blind.	A valid presence detection * causes delayed closure *** of the Down output contact (Down function for a roller shutter or a blind) and switching to Absence mode at the end of the switch-off delay ** causes delayed closure *** of the Up output contact (Up function for a roller shutter or a blind).

Possible link type		Link description	Output operation
	Up priority	The Up priority function forces the Up movement of a roller shutter or a blind.	A valid presence detection * causes delayed closure *** of the Up output contact (Up function for a roller shutter or a blind). Priority is the function with the highest priority. Only a Priority Cancellation command ends the priority and re-authorises lower-priority bus commands to be taken into account. After confirming the link, select the behaviour to follow Priority Cancellation: Maintain: The output is maintained in the same status as during Priority. Inversion: The output is inverted in relation to the status active during Priority ➜ Shutter lowering. A priority is also cancelled by another Priority command.
	Down priority	The Down Priority function forces the Down movement of a roller shutter or a blind.	A valid presence detection * causes delayed closure *** of the Down output contact (Down function for a roller shutter or a blind). Priority is the function with the highest priority. Only a Priority Cancellation command ends the priority and re-authorises lower-priority bus commands to be taken into account. After confirming the link, select the behaviour to follow Priority Cancellation: Maintain: The output is maintained in the same status as during Priority. Inversion: The output is inverted in relation to the status active during Priority ➜ Shutter raising). A priority is also cancelled by another Priority command.

* Valid presence detection:
  - For the Lighting channel: Presence detected and ambient brightness below threshold.
  - For the Presence channel: Presence detected, whatever the ambient brightness.

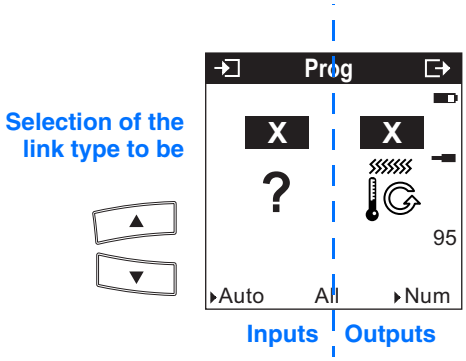
** Switch-off delay: Can be set separately for the Lighting channel and the Presence channel via a potentiometer on the device.

*** The Up and Down delay modes and durations are parameterisable. (see the TX100 configuration manuals for the Roller shutter / Blind output actuators).

3.4 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. Refer to the thermostat, ambiance controller and regulator configuration manuals for information on installing and configuring these devices.

After channel numbering, the available functions and links will appear on the left part of the TX100 display.



The table below presents the link types compatible with the device.

Possible link type		Link description	Output operation
	Comfort/Economy switching	The Comfort/Economy function switches between Comfort in the event of presence and Economy in the event of absence.	A valid presence detection * activates the Comfort mode. Switching to Absence after the switch-off delay ** activates the Economy mode.
	Override in comfort mode	The function "override in comfort mode" activates the Comfort mode.	A valid presence detection * activates the Comfort mode. Switching to Absence after the switch-off delay ** does not cause any change. The effect of this command is cancelled by any other mode activation command.
	Override in Economy mode	The function "override in economy mode" activates the economy mode.	A valid presence detection * activates the Economy mode. Switching to Absence after the switch-off delay ** does not cause any change. The effect of this command is cancelled by any other mode activation command.
	Override in Frost Protection	The function "override in protection mode" activates the Frost Protection mode for heating or the Equipment protection mode for air-conditioning.	A valid presence detection * activates the Frost Protection mode (or Protection). The effect of this command is cancelled by any other mode activation command. Switching to Absence after the switch-off delay **1 causes return to Auto mode.
	Heating ON/OFF	The Heating OFF function allows the heating to be stopped immediately: all running cycles are stopped and all outputs are opened.	A valid presence detection * stops the heating. Switching to Absence after the switch-off delay ** restarts the heating. The Heating OFF command has the highest priority. Only a Stop end command allows re-starting the heating. The Valve Protection function remains active.

Possible link type		Link description	Output operation
	Timed Comfort	The Delayed Comfort function actives the Comfort setpoint for an adjustable time. Select the delay time after confirming the link: Setting range [0 s 24 h]: 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. Default value: 30 min.	A valid presence detection * activates the Comfort mode. The previous mode is reactivated at the end of the timer delay. The effect of this command is cancelled by any other mode activation command.
	Comfort Priority	The Comfort Priority function activates and maintains Comfort mode.	A valid presence detection * activates the Comfort mode. Switching to Absence cancels the priority. Priority is the function with the highest priority. Only a Priority Cancellation command ends the priority and re-authorises lower-priority bus commands to be taken into account. It returns to the initial mode after Priority Cancellation. The effect of this command is also cancelled by any other Priority command (Frost Protection) or a Stop command.
	Frost Protection Priority	The Frost Protection Priority function activates and maintains Frost Protection mode for heating and Protection mode for air-conditioning.	Switching to Absence cancels the priority. Priority is the function with the highest priority. Only a Priority Cancellation command ends the priority and re-authorises lower-priority bus commands to be taken into account. It returns to the initial mode after Priority Cancellation. The effect of this command is also cancelled by another other Priority (Comfort) command or a Stop command.

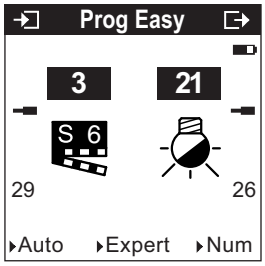
* Valid presence detection:
- For the Lighting channel: Presence detected and ambient brightness below threshold.
- For the Presence channel: Presence detected, whatever the ambient brightness.

** Switch-off delay: Can be set separately for the Lighting channel and the Presence channel via a potentiometer on the device.

3.5 Scene function

Link creation

Links can be created between an infrared detection channel and outputs that should belong to the scene by selecting a Scene function (number 1 to 8).



Possible link type		Link description	Output operation
S 1 to S 8	Scene 1 to 8	The Scene function groups a set of outputs. These outputs can be set to an adjustable predefined status. Each output may be integrated into 8 different scenes.	A valid presence detection * activates the scene. The status of each output can be defined: by parameterising the actuators or regulators, via learning, with the pushbuttons on the installation or on the front of certain devices.

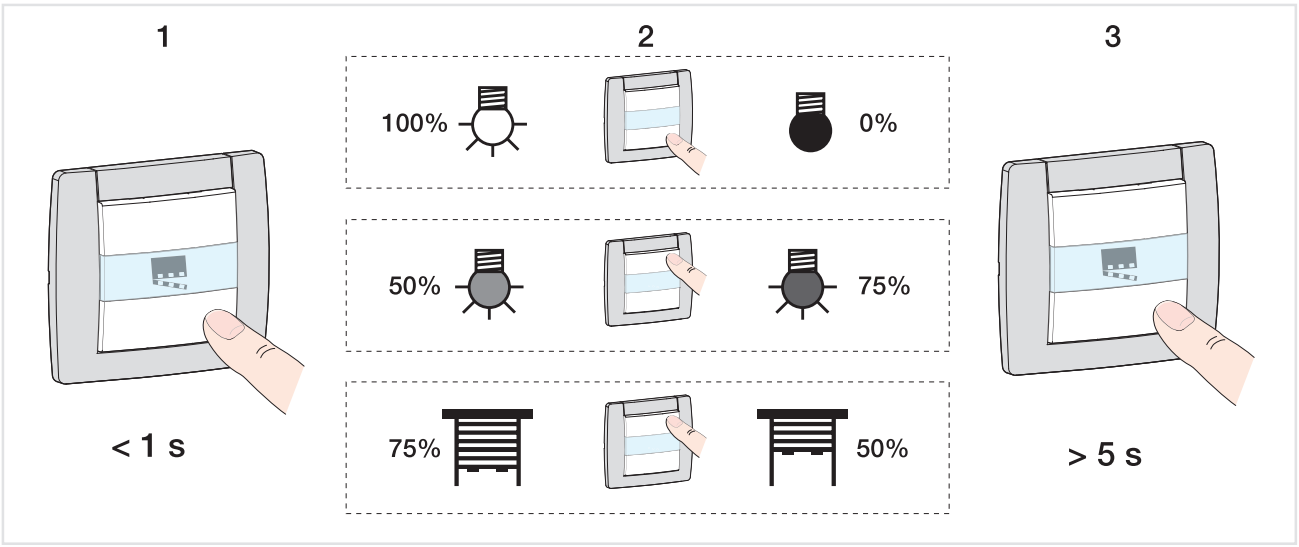
Output configuration by parameterisation

Refer to the user instructions for the various actuators.

Configuration by learning and scene storing

This procedure allows modifying and storing a scene by local action on the Ambiance pushbuttons or by local action on the pushbuttons situated on the front of certain devices (lighting or roller shutter / blind actuators, ...).

- Activate the scene by pressing briefly on the room pushbutton that triggers the scene.
- Switch the outputs (lighting, roller shutters, thermostats, TX460 regulator) to the desired status using the Ambiance pushbuttons that command them individually or by means of local action on the pushbuttons situated on the front of certain products (see the configuration manuals of the concerned devices for more details).
- Store the output statuses and the regulator mode by pressing the scene-triggering Ambiance pushbutton for at least 5 s. The storage is indicated by temporary activation of the outputs on certain actuators.



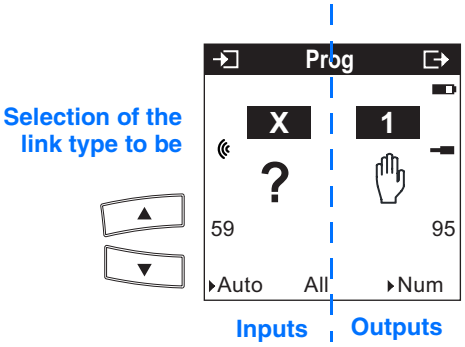
4. Configuration of an override command

The operating mode (Automatic or Semi-automatic) is selected via a switch directly on the device.

When the detector operates in Semi-automatic mode, this override command activates or deactivates the Detection function.

When the detector operates in Automatic mode, this override command allows overriding the active operating mode.

After canal numbering, the TX510 override input is symbolized by the icon on the right part of the display.



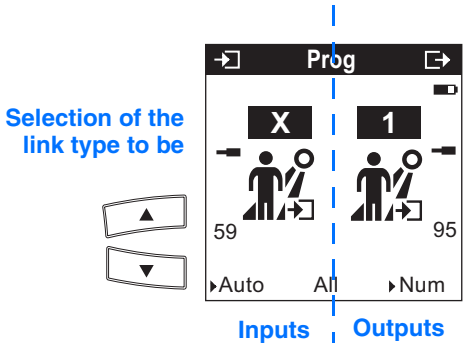
The table below presents the link types compatible with the device.

Possible link type		Link description	Output operation
	ON	The ON function allows overriding the detector's operating mode.	In Semi-automatic mode: Press on the pushbutton ➜ The output switches to ON and automatic operation with presence detection is activated. In Automatic mode: Press on the pushbutton ➜ override the output's operating mode with output status inversion.
	OFF	The OFF function allows overriding the detector's operating mode.	In Semi-automatic mode: Press on the pushbutton ➜ Automatic operation with presence detection is deactivated and the output switches to OFF. In Automatic mode: The current override is cancelled.

5. Configuration of a Master/Slave link

This function establishes a link between a Master detector and a Slave detector.

The master detector is symbolized by the icon on the right part of the display and the slave detector by the icon on the left part of the display:



Link creation is used to connect the master detector and the slave detector.

6. Expert mode and Specific links

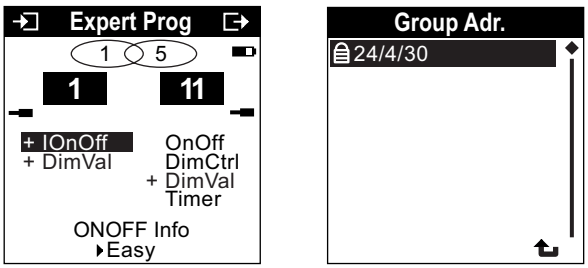
General points

Basic EIB/KNX knowledge (for example, ETS = EIB software) is required to perform programming in Expert mode.

Expert mode includes the following functions:

a. Extension of the communication system: Grants access to the group address given during programming in Standard mode in order to set up links between a Tebis TX installation (TP,Funk KNX) and Hager devices such as technical alarms, displays, Internet gateways.
b. Programming of mixed installations (EIB/KNX and Tebis TX): Expert mode allows integrating KNX RF products in an installation parameterised with ETS.
c. Programming of additional functions: To maintain ease of programming in Standard mode, certain of the device's functions may not be available in that mode. Therefore, certain specific solutions are reserved for Expert mode.

Example of an Expert mode display:



The following pages describe the pushbutton objects visible in Expert mode. The objects visible depend on the parameterised functions. Basic information on Expert mode operation can be found in specific documentation.

■ List of the available objects

TX100 designation	ETS designation	Function	Format	Description
On/Off and Dimmer Lighting controls				
OnOff	On/Off	ON/OFF	EIS1 1 bit	Sends an ON/OFF command.
IOnOff	InfoOn/Off	ON/OFF information	EIS1 1 bit	Indicates the output's status.
DimVal	DimmingValue	Dimming command	1 byte	Sets a dimmer's output level to a defined value.
Deviation	Deviation	Deviation command	1 bit	Allows deviation from the active Presence or Absence mode.
Timer	TimedStartStop	Timer	EIS1 1 bit	Activates or stops a timer.
Forced	Forced	Priority	EIS2 2 bit	Forces an output.
Roller shutter / Blind control				
UpDown	UpDown	Up/Down	1 bit	Sends an Up or Down command for a roller shutter or a blind.
IUpDown	InfoMoveUpDown	Up/Down information	1 bit	Provides the status of the Up/Down output 1 BP command).
IOnOff	InfoON/Off	ON/OFF information	EIS1 1 bit	Indicates the output's status.
Forced	Forced	Priority	EIS2 2 bit	Forces an Up or Down command.
Heating / Air-Conditioning control				
HvacMode	**HvacMode**	Heating mode	1 byte	Activates a heating or air-conditioning mode (Comfort, Reduced, ...).
Timer	TimedStartStop	Timer	EIS1 1 bit	Starts a delayed deviation.
IOnOff	InfoOnOff	ON/OFF information	EIS1 1 bit	Indicates the output's status.
Forced	Forced	Priority	EIS2 2 bit	Forces a heating or air-conditioning mode.
Scene				
Scene	SceneNumber	Scene	1 byte	Activates the scene by its number.

7. Other functions

Restore Factory Configuration function (Reset)

This function resets the device to its original configuration (Factory configuration).
After a device reset, the device can be re-used in a new installation.
This function is accessible via the TX100's Device Management/Reset menu.
There are 2 different cases:

- The device belongs to the installation: it appears in the Reset menu's list of devices that can be reset to Factory configuration. Select the device from the list, press ✓ and confirm deletion.
- The device does not belong to the installation:
  ➜ Remove the device from the BCU and press the BCU's physical addressing button. The LED lights up.

  ➜ On the TX100:

  - Select Not install. device from the Reset menu.
  - Press ✓.
  - Select TP.
  - Press ✓.

The TX100 sounds a beep after the operation.

After a device reset, the installation must be learnt again in order to relocate the devices reset to Factory configuration.

Characteristics

Max. number of group addresses	254
Max. number of links	255

Bus presence test

To check the presence of the bus, remove the front and press the physical addressing pushbutton situated on the device's BCU.
Indicator on = Bus presence.

Important = Press the pushbutton again to quit this mode.