





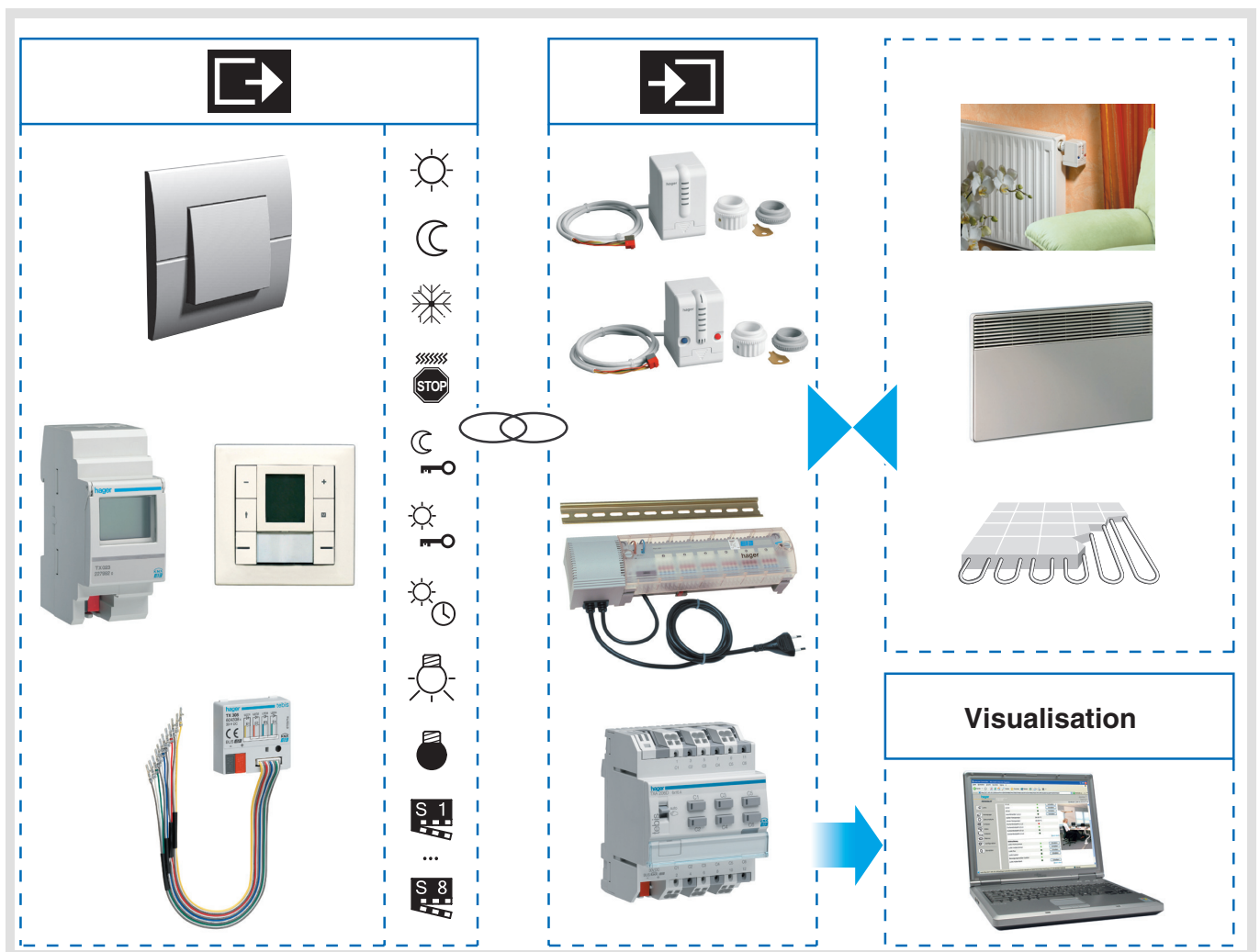


## Operation with the Tebis TX - TX100 link



Functions of the Tebis room controller and regulator and key sensor  
*Electrical / Mechanical characteristics: see user's instructions*

	Product reference	Designation	Version TX100	TP device  RF devices 
	WYT62x WHT62x	Room controller and regulator and triple multifunction key sensors	≥ 2.2.x	
	WUT06 V2	BAU for WYT61x,WYT62x and WHT62x	≥ 2.2.x	



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## 1. Presentation of the functions

The product WHT620 is only sold on the Swiss market.

The WYT62x, WHT62x device is a multifunction room controller and regulator with LCD display. It works according to 3 modes: thermostat and 4 generic push buttons, thermostat and 6 generic push buttons and thermostat for fan coil.

The display shows the following information:

- Current ambient temperature,
- Current mode (Comfort, Standby, Night set-point, Frost / heating protection),
- Current temperature setpoint,
- Speed of ventilation.

The functions may be assigned to the 6 push buttons according to use. (Lighting, Shutter, Scene settings).

The WYT62x, WHT62x can be used with the Bus Access Unit WUT06 V2.

### 1.1 Presentation of the room controller and regulator functions

#### ■ Control of the ambient temperature of the heating and air-conditioning systems

The thermostat function of the room controller and regulator allows controlling the following installations:

- Heating.
- Heating or air-conditioning.

Switching between heating mode and air-conditioning mode can be performed as follows:

- Manually on the regulator (see WYT62x, WHT62x user's instructions).
- Via the bus and an input module combined with a switch.
- Automatically: the regulator then defines switching and sends a command on the bus.

The control is based on the measurement of the ambient temperature. This temperature is compared with the setpoint defined by the user. The valves may be controlled either by heating outputs or by lighting outputs.

The following table shows which installation types can be regulated by the room controller and regulator. The selection of the installation type is made in the Installer-Settings menu, directly on the room controller and regulator (see the WYT62x, WHT62x user's instructions).

System	Heating / air-conditioning transmitter type	Regulation type
		PID
Heating	Radiator	x
	Hot water underfloor heating	x
	Fan Convector (2 tubes)	x
	Electrical wall transmitter	x
	Electrical floor heating	x
Air-con	Fan Convector (2 tubes)	x

#### ■ Operating modes

The room controller and regulator can operate in the following modes:

- Comfort.
- Night set-point.
- Standby.
- Frost / heating protection.

Mode selection may occur by means of a push button, priority, derogation, a timer, a clock or by activating a scene.

A temperature setpoint is associated with each mode.

#### ■ Time limited comfort

The regulator may be switched over to Comfort mode for an adjustable duration. It returns automatically to the last mode set when this time has elapsed.

■ Priority

The Priority allows switching the regulator to Frost protection mode as well as to Comfort mode.

■ Valve protection function

The room controller and regulator opens the controlled valves or circulation pumps periodically to prevent them from jamming.

■ Scene

The room controller and regulator can be integrated in up to 8 scenes. Calling the scenes allows switching the room controller and regulator to the following modes:

- Comfort,
- Standby,
- Night set-point,
- Frost protection.

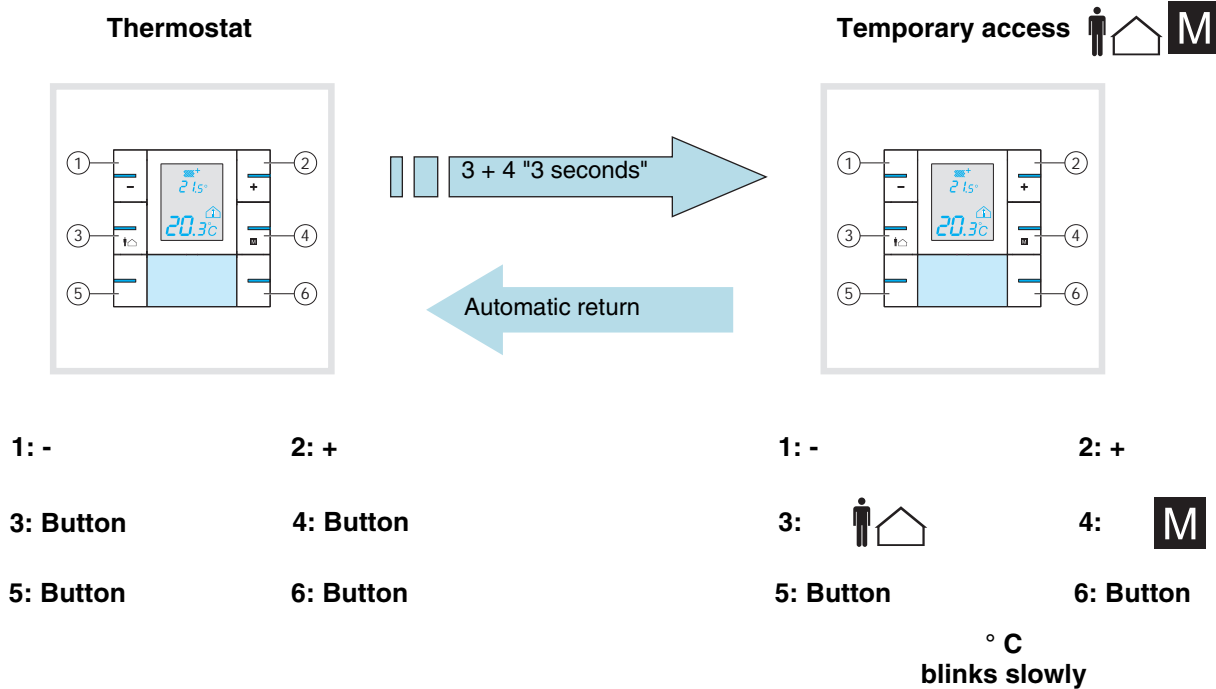
■ Frost / heating protection

The Frost protection function allows protecting a building (installation) against the risks linked with a too low or a too high temperature.

### 1.1.1 Thermostat with 4 buttons

Keys 1 and 2 are used to control the thermostat and the status LED are OFF.  
By default, key 3 to 6 are generic with green / red status LED.

The access to functions is described in the user instructions.



## 1.2 Presentation of the bus push button functions

### 1.2.1 Presentation of the key sensor functions

#### ■ ON / OFF, Dimming, Up / Down, Heating / Cooling setpoint selection

The Push buttons send commands to output devices to control lighting (ON / OFF, dim), shutters / blinds (up / down, slat angle / stop), heating / cooling (set point selection).

#### ■ Timer

This function is used to switch ON or OFF a switching output (lighting) for an adjustable period of time (time setting while establishing the link with the TX100).

#### ■ Priority

The Priority function sends priority-start or priority-stop commands. The forcing action depends on the type of application controlled: Lighting, Shutters / blinds, Heating, etc.

#### ■ Scene

This function is used to call and to store scenes for different kinds of outputs. Example of scene 1: Leaving the house (with centralised lighting control OFF, shutters on South side lowered to 3/4, the other shutters open, heating set to Economy (Absence)).

#### ■ Label holder backlight

The product includes a backlight for the label holder. A dedicated output is available to switch this lighting ON and OFF.

#### ■ Status indication by indicator

Each of the keys is equipped with an indicator, the function of the indicator can be selected in the Product information menu among the following options:

- Permanent ON (Green) or OFF (off).
- Status indication of the controlled outputs (permanent or blinking). Default setting is indicator OFF.

### 1.2.2 Configuration and parameterising of the Push button functions

The Push buttons can send commands to the Tebis TX plant to carry out the following functions:

Remote push button (switch over every time when depressed), ON, OFF, ON / OFF (pressed = ON, released = OFF), Timer, Dimming on 1 or 2 push buttons.

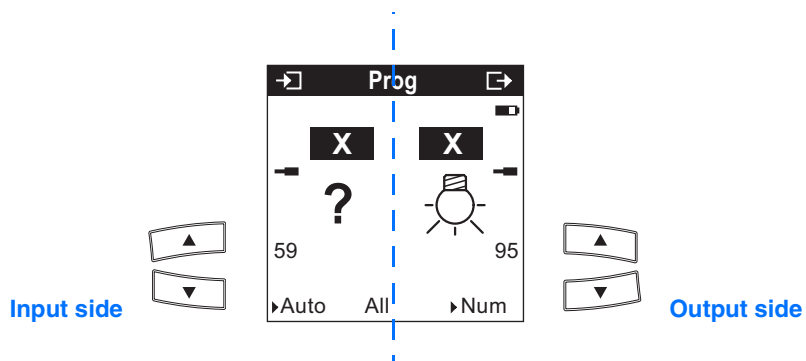
- Lighting control:
- Shutters / Blinds control:  
Up, Down, Stop, Blind slat angle, 1 button or 2 button control
- Heating control (Heating mode):  
Comfort (Day), Standby (Absent), Reduction (Reduced), Frost protection, Timed comfort, Comfort / Standby (Present / Absent).
- Scene controls (8 selectable scenes per push button),
- Priority.

These functions are set up in the standard configuration mode of the TX100 and linked with the appropriate output products.

**Remark: before carrying out a configuration, the push button must be mounted on the WUT06 bus coupler.**

### 1.3 Lighting control function

After push button numbering, the following functions can be selected for the output type (switching output).









**X** symbolizes a possible input or output number.

The inputs and outputs can easily be selected using the TX100's and keys.

The key allows switching from the **X** input number zone to **?** function selection.

Key's possible functions		Description	Operation
	Not used	Default value	Selection of available push button functions using the TX100's scroll keys.
	ON	The ON function switches the output channel (lighting) ON. For ex.: Central ON command	Press on the key: Closing of the output contact. (No change after new key-press).
	OFF	The OFF function switches the output channel (lighting) OFF. For ex.: Central OFF command	Press on the key: Opening of the output contact (No change after new key-press).

Key's possible functions		Description	Operation
	Button (Toggle switch)	After each key press the toggle function will invert the status of the output circuit (lighting).	Press on the key: Status change of the output contact. The status changes after each new key-press.
	Switch Impulse output	The switch function is required on the push button to be able to carry out a pulse output. The switching output only closes as long as the key is pressed.	Press on the key: Closing of the output contact.  Release the key: Opening of the output contact.
	Timer ON (Staircase timer)	<p>The Timer ON function switches the output channel (lighting) to ON for an adjustable time. The ON timer duration is defined after link validation: *</p> <p>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.</p> <p>The output automatically switches to OFF when the delay has expired.</p>	<p>Short (&lt;0.5-s) key press: The output contact switches to ON for the set time.</p> <p>Long (&gt;0.5 s) push button press: - End of the current delay and opening of the output contact (Switching OFF).</p> <p>Pressing the key briefly (&lt;0.5 s) one or more times within the first 10 s after switching ON. Every time the key is pressed, the ON-switching time is increased by the time set for our TXA switching outputs. For example: ON duration 1 min within the first 10 s 5 key-presses (5+1) → 6 min ON-switching time.</p> <p>Pressing the key briefly after the first 10 s of the ON-switching time: New start of the timer operation (retriggering).</p>
	Timer OFF	<p>The OFF Timer function switches the output channel (lighting) to OFF for an adjustable time. The ON timer duration is defined after link validation: *</p> <p>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.</p> <p>The output automatically switches to ON when the delay has expired.</p>	<p>Short (&lt;0.5-s) key press: The output contact switches to OFF for the set time. The OFF timer duration is defined after link validation.</p> <p>Long (&gt;0.5 s) push button press: - Ending of the current Timer operation and closing of the output contact (switching ON).</p> <p>Pressing the key once or more times (&lt;0.5 s) within the first 10 s after switching OFF: Every time the key is pressed, the OFF-switching time of our 10 outputs is increased by the time set. For example: OFF-switching time 1 min within the first 10 s 5 key-presses (5+1) → 6 min OFF switching time.</p> <p>Pressing the key briefly after the first 10 s of the OFF-switching time: New start of the timer operation (retriggering).</p>

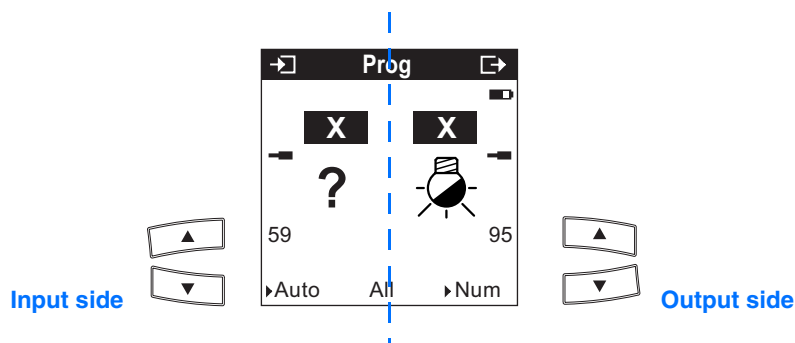
Key's possible functions	Description	Operation
	<p>Priority ON</p>	<p>Press on the key: The output switches to ON. Another key press: Priority is cancelled.</p> <p>Remark: The end of priority behaviour is defined after confirming the link: - Maintain: ON - Inversion: OFF</p> <p>Priority is the function with the highest priority. No other command is taken into account if a priority is active.</p> <p>A new Priority command overrides the previous one (the latest command is valid).</p> <p>If the indicator of the key is set to status indication, it indicates whether Priority is active or not, it does not indicate the status of the output.</p>
	<p>Priority OFF (Switch function)</p>	<p>Press on the key: The output switches to OFF. Another key press: Priority is cancelled.</p> <p>Remark: The end of priority behaviour is defined after confirming the link: - Maintain: OFF - Inversion: ON</p> <p>Priority is the function with the highest priority. No other command is taken into account if a priority is active.</p> <p>A new Priority command overrides the previous one (the latest command is valid).</p> <p>If the indicator of the key is set to status indication, it indicates whether Priority is active or not, it does not indicate the status of the output.</p>

\* To be able to modify the ON-switching time, the link must be removed and restored afterwards. If several keys of the Timer function are linked, the time used is the time set with the last one.



## 1.4 Dimmer Lighting functions

After numbering the push buttons, the following functions may be selected for the output type (dimming output).







X symbolizes a possible input or output number.

The inputs and outputs can easily be selected using the TX100's and keys.

The key allows switching from the X input number zone to ? function selection.

Key's possible functions		Description	Operation
	Not used	Default value	Selection of available push button functions using the TX100's scroll keys.
	ON	The ON function switches the lighting circuit ON. For ex.: Central ON command	Press on the key: Switching ON (at the last lighting value) (no change after new key press).
	OFF	The OFF function switches the lighting circuit OFF. For ex.: Central OFF command	Press on the key: switching OFF (No change after new key-press).
	Button (Toggle switch)	The toggle function will, after each key press, invert the status of the lighting circuit. (ON - OFF ; OFF - ON).	Press on the key: Switching ON (at the last lighting value) or switching OFF. The status is inverted after each new key-press.
	1-button dimmer	The 1-push button Dimmer function allows dimming the light with one single push button.	A short push button press: Switching ON (at the last lighting value) or switching OFF. A long push button press: Dimming up or down (dimming direction changes every time the key is pressed for a long time).
	2-button dimmer: Increase of the lighting level	The Increase Function allows increasing the output level.	A short push button press: Switching ON (at the last lighting value). A long push button press: Increase of the lighting level.
	2-button dimmer: Reduction of the lighting level	The Reduction function allows decreasing the output level.	A short push button press: Switching OFF (on the last lighting value). A long push button press: Reduction of the lighting level.
	Switch	The Switch function switches the lighting circuit ON or OFF.	Press on the key: Switching ON (at the last lighting value). Release the key: switching OFF.

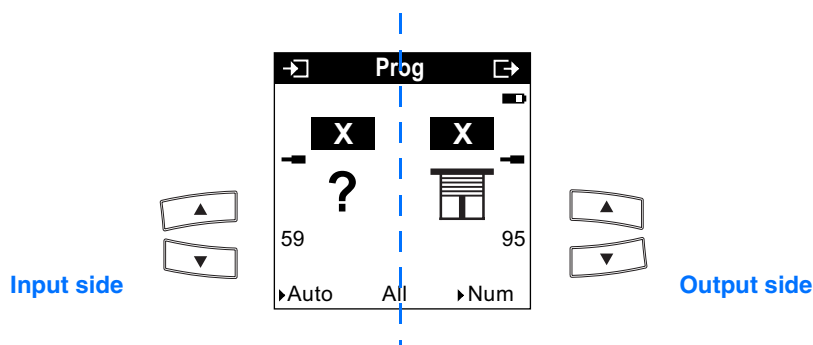
Key's possible functions	Description	Operation
	<p>Timer ON (toggle function like on a staircase timer)</p>	<p>The Timer ON function switches the lighting circuit ON for an adjustable time. The ON timer duration is defined after link validation:</p> <p>Setting range [0 s 24 h]: Not active, 1 s, 2 s, 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.</p> <p>The output switches to OFF when the delay has expired!</p>
	<p>Timer OFF</p>	<p>The Timer OFF function switches the lighting circuit off for an adjustable time. The OFF timer duration is defined after link validation.</p> <p>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.</p> <p>The output switches to ON when the delay has expired!</p>

Key's possible functions	Description	Operation	
	<p>Priority ON (Switch function)</p>	<p>The Priority ON function forces the lighting circuit ON and maintains it ON.</p> <p>After confirming the link, select the end of priority behaviour:</p> <p><b>Mode</b></p> <ul style="list-style-type: none"> <li>- Maintain</li> <li>- Inversion</li> </ul> <p>Pressing the key a second time cancels the Priority.</p>	<p>Press on the key: The output switches to ON (at the last lighting level).</p> <p>Another key press: Priority is cancelled.</p> <p>Remark: The end of priority behaviour is defined after confirming the link:</p> <ul style="list-style-type: none"> <li>- Maintain: ON</li> <li>- Inversion: OFF</li> </ul> <p>Priority is the function with the highest priority. No other command is taken into account if a priority is active.</p> <p>A new Priority command overrides the previous one (the latest command is valid).</p> <p>If the indicator of the key is set to status indication, it indicates whether Priority is active or not, it does not indicate the status of the output.</p>
	<p>Priority OFF (Switch function)</p>	<p>The OFF Priority function forces the lighting circuit OFF and maintains it OFF.</p> <p>Pressing the key a second time cancels the Priority.</p> <p>After confirming the link, select the end of priority behaviour:</p> <p><b>Mode</b></p> <ul style="list-style-type: none"> <li>- Maintain</li> <li>- Inversion</li> </ul>	<p>The output switches to OFF.</p> <p>Another key press: Priority is cancelled.</p> <p>Remark: The end of priority behaviour is defined after confirming the link:</p> <ul style="list-style-type: none"> <li>- Maintain: OFF</li> <li>- Inversion: ON</li> </ul> <p>A new Priority command overrides the previous one (the latest command is valid).</p> <p>If the indicator of the key is set to status indication, it indicates whether Priority is active or not, it does not indicate the status of the output.</p>

## 1.5 Shutters / Blinds control function

After push button numbering, one of the following functions can be selected to control output modules (shutters / blinds).

**Important:** The position of the shutters or blinds can be integrated in the definition of a scene. For that purpose, the Up and Down speed (closing of the TXA22x output contact) must be defined on the TX100 (selection of the parameters, refer to chapter 9). A download is necessary to finish this setting (refer to chapter 9). The rest of the programming work is done in the Prog mode of the TX100.





**X** symbolizes a possible input or output number.

The inputs and outputs can easily be selected using the TX100's and keys.

The key allows switching from the **X** input number zone to **?** function selection.

The table below describes the functionalities which can be obtained combining the Push buttons with the outputs:

Key's possible functions	Description	Operation
Up / Stop	The Up / Stop function allows moving up or stopping a shutter or a blind, or inclining the slats of a blind.	Shutters mode: * Short (<0.5-s) key press: Stop Long (>0.5 s) push button press: Shutter, Up  Blinds mode: * Short (<0.5-s) key press: Stop or Blind slat angle. Long (>0.5 s) push button press: Blind Up
Down / Stop	The Down function allows moving down or stopping a shutter or a blind, or inclining the slats of a blind.	Shutters mode: * Short (<0.5-s) key press: Stop  long key-press (>0.5 s) Shutter Down  Blinds mode: * Short (<0.5-s) key press: Stop or Blind slat angle. Long (>0.5 s) push button press: Blinds Down
Up / Down / Stop	The Up / Down function allows moving up, down or stopping a shutter or a blind with one single push button.	Only the functions of the Shutters mode are active, the slat angle function of a blind is not possible.  Repeated key press: Closing of the Up / Down output contacts for a limited time * in the order Up, Stop, Down

Key's possible functions		Description	Operation
	Up priority	<p>The Priority up function forces the Up movement of a shutter or a blind.</p> <p>After confirming the link, select the end of priority behaviour:</p> <p><b>Mode</b></p> <ul style="list-style-type: none"> <li>- Maintain</li> <li>- Inversion</li> </ul> <p>Pressing the key a second time cancels the Priority.</p>	<p>Press on the key: Closing of the Up output contact for a limited duration * → The shutter or blind moves up.</p> <p>Another key press: Priority is cancelled.</p> <p>Priority is the function with the highest priority after the Rain / Wind alarm. Except the Rain / Wind alarm, no other command is taken into consideration when a Priority is active.</p> <p>Remark: The end of priority behaviour is defined after confirming the link:</p> <ul style="list-style-type: none"> <li>- Maintain: no movement command will be started.</li> <li>- Inversion: The Down output contact will be closed for a limited duration.*</li> </ul> <p>A new Priority command overrides the previous one (the latest command is valid).</p> <p>If the indicator of the key is set to status indication, it indicates whether Priority is active or not.</p>
	Down priority	<p>The Down Priority function forces the Down movement of a shutter or a blind.</p> <p>After confirming the link, select the end of priority behaviour:</p> <p><b>Mode</b></p> <ul style="list-style-type: none"> <li>- Maintain</li> <li>- Inversion</li> </ul> <p>Pressing the key a second time cancels the Priority.</p>	<p>Press on the key: Closing of the Down output contact for a limited duration * → The shutter or blind is lowered.</p> <p>Another key press: Priority is cancelled.</p> <p>Priority is the function with the highest priority after the Rain / Wind alarm. No other command is taken into account if a priority is active.</p> <p>The end of priority behaviour is defined after confirming the link:</p> <ul style="list-style-type: none"> <li>- Maintain: no movement command will be started.</li> <li>- Inversion: The Up output contact will be closed for a limited duration.*</li> </ul> <p>A new Priority command overrides the previous one (the latest command is valid).</p> <p>If the indicator of the key is set to status indication, it indicates whether Priority is active or not.</p>

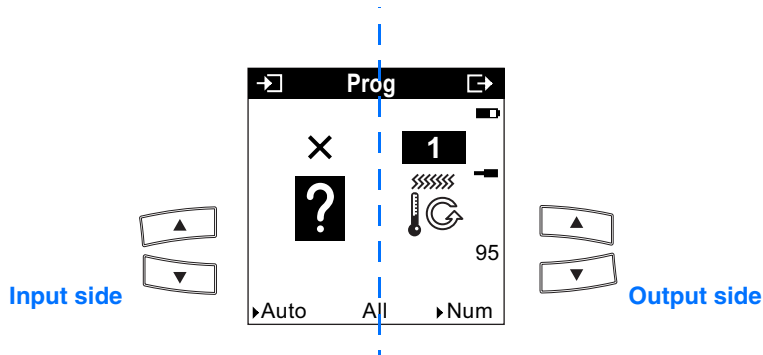
\* Remark:

The operating mode and the running times for Up and Down (closing of the outputs) can be found in the TX100 under >> Device management / Device information → Select the device → Param. << setting. A download is necessary to finish this setting.

## 1.6 Heating / Cooling setpoint selection function

The key sensors allow controlling the setpoints (Comfort, Reduced, etc.) of the room controllers and regulators. For the setpoint selection, the thermostat will be represented by the symbol displayed on the right side of the TX100 in Prog mode.

After push button numbering, one of the following functions can be selected to control output modules (thermostats).



X symbolizes a possible input or output number.

The inputs and outputs can easily be selected using the TX100's and keys.

The key allows switching from the X input number zone to ? function selection.

Also refer to the following table with the symbols of the operating modes for the various thermostats.

Key's possible functions		Description	Operation
	Not used	Default value	Selection of available push button functions using the TX100's scroll keys.
	Comfort - Presence	This function activates the Comfort mode of a thermostat.	Press on the key: Comfort mode activation. This activation is cancelled by any other mode activation.
	Night set-point	This function activates the Reduced mode of a thermostat.	Press on the key: Reduced mode activation. This activation is cancelled by any other mode activation.
	Time limited comfort	The Time limited comfort function activates comfort mode for an adjustable period. The duration of the activation is selected after validation of 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.	Short (<0.5-s) key press: Activation of the Timed reduced mode for the set time.  Long (>0.5 s) push button press: Back to the original mode. When the activation time has elapsed, the thermostat switches back automatically to the original mode.  This activation is cancelled by any other mode activation.
	Timed reduced	The Timed reduced function activates the Reduced mode for an adjustable time. The duration of the activation is selected after validation of 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.	Short (<0.5-s) key press: Activation of the Timed reduced mode for the set time.  Long (>0.5 s) push button press: Back to the original mode. When the activation time has elapsed, the thermostat switches back automatically to the original mode.  This activation is cancelled by any other mode activation.

Key's possible functions		Description	Operation
	Eco - Absence	This function selects the Economy setpoint of a thermostat.	<p>Press on the key: Activation of the Economy mode.</p> <p>This activation is cancelled by any other mode activation.</p>
	Comfort / Standby	The Comfort / Standby function allows switching between these two modes.	<p>Press on the key: Setpoint switching between Comfort and Eco. The setpoint changes at every keypress.</p> <p>This activation is cancelled by any other mode activation.</p>
	Frost protection	The Frost protection function is used to select, when heating, the Frost protection function and, when cooling, the Heat protection function.	<p>Press on the key: Selection of the Frost protection or heat protection.</p> <p>This activation is cancelled by any other mode activation.</p>
	Comfort priority	The Comfort priority function allows activating and maintaining the Comfort setpoint.	<p>Press on the key: Priority of the Comfort setpoint.</p> <p>Another key press: Priority is cancelled. Priority has the highest priority. No other command is taken into account if a priority is active. After Priority cancellation, back to the original mode. This command can possibly be cancelled by another priority command (Frost protection) or by a Stop command. If the indicator of the key is set to status indication, it indicates whether Priority is active or not. The indicator associated with the push button indicates whether a Priority is active or not, it does not indicate the status of the output.</p>
	Priority frost protection	The Frost protection Priority function allows activating and maintaining the Frost protection setpoint.	<p>Press on the key: Priority of the Frost protection setpoint.</p> <p>Another key press: Priority is cancelled. Priority has the highest priority. No other command is taken into account if a priority is active. After Priority cancellation, back to the original mode. This command can possibly be cancelled by another priority command (Comfort) or by a Stop command. If the indicator of the key is set to status indication, it indicates whether Priority is active or not.</p>


## 1.7 Scene function

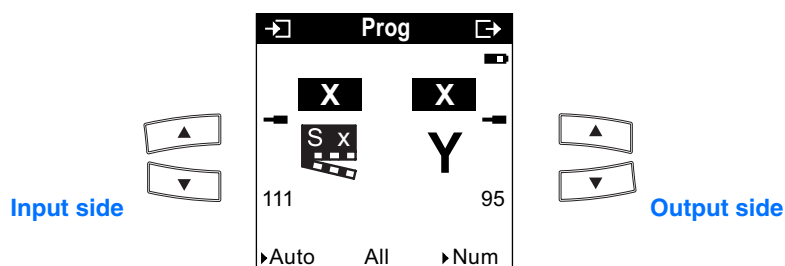
The Scene function allows calling and storing predefined output values.

The outputs can be of the same type or different types (lighting, shutters / blinds, heating, etc.).

Example of scene 1: Leaving the house (with centralised lighting control OFF, shutters on South side lowered to 3/4, the other shutters open, heating set to Economy (Absence)).

Example of scene 2: Shutters lowered, light on, heating set to Comfort.

To assign the Scene function to a key, select the symbol  (x represents a scene number between 1 and 8).









x represents a scene number between 1 and 8.

X stands for an input or output number.

Y represents the output type (switch, dim, shutter / blind or heating / cooling setpoint selection).

The table below describes possible link types.

Key's possible scene function	Function	Description	Possible action on output	Output operation
?	Not used	Default value	Selection of available push button functions using the TX100's scroll keys	?
 to 	Scene 1 to 8	Various output types (e.g. lighting, shutters / blinds, heating setpoint selection) can be linked to all scenes (No. 1 to 8).  Up to 8 scenes can be associated to each key.	ON / OFF   Dimming   Shutters / blinds Up - / Down   Heating / Cooling adjustment 	Short (<0.5-s) key press: The devices linked with this scene set themselves to the values stored in the devices for this scene:  Long (>6 s) push button press: The current values for the outputs (lighting, Shutters status, heating setpoint, etc..) are stored in the actuator for this scene.



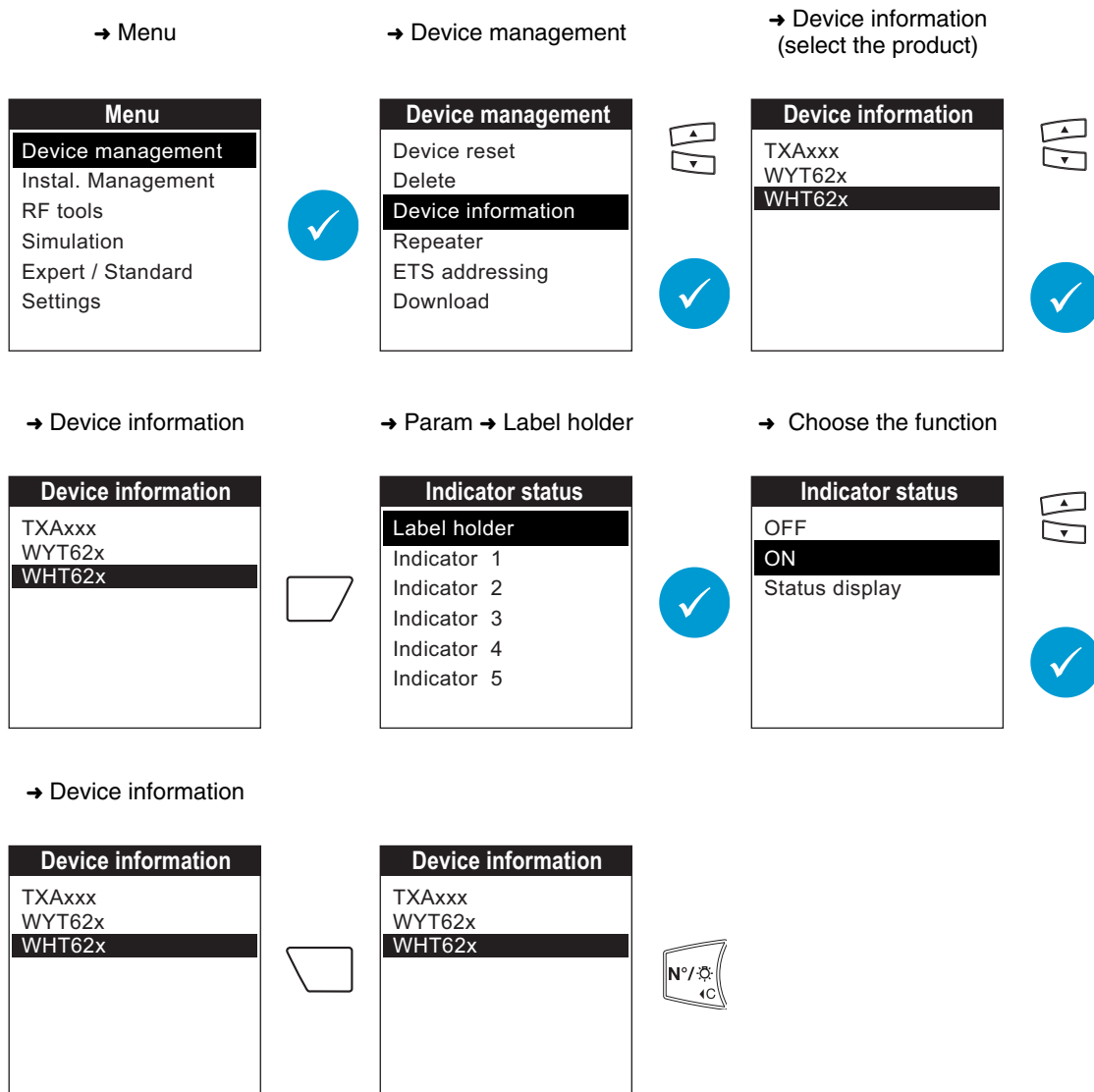
## 1.8 Label holder backlight

The operation of the label holder lighting is set on the TX100 in the Product information menu of the push button.

Function	Description
OFF	The label holder is permanently OFF (Default value).
ON	The label holder is permanently ON.
Status indication	The label holder indicates the status of an output or of an input.

When the chosen operation is Status indication, the label holder lighting can be linked with an input (push button, dimmer key, switch clock) or with an output (switching, dimming...).

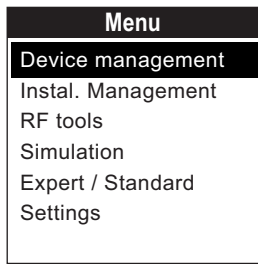
Access to the setting:  
Press the right key of the TX100.



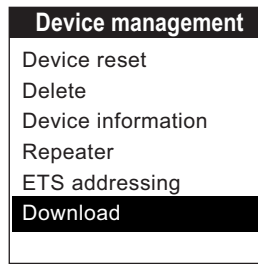
Remark: A download must be performed after choosing the parameter.

Access to the download:

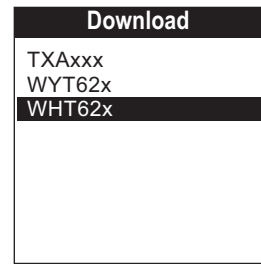
→ Menu



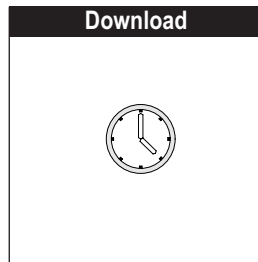
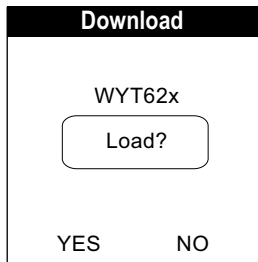
→ Device management



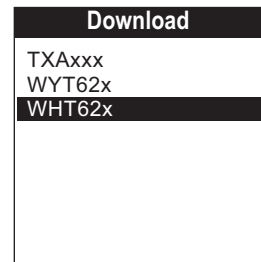
→ Download



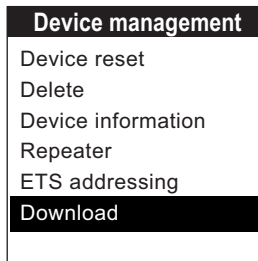
→ Confirm the download



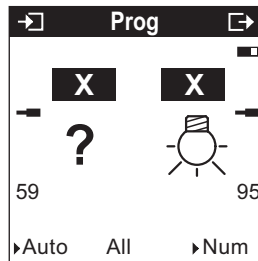
→ Back to the download



→ Back to device management



→ Menu before setting



## 2. Room controller and regulator numbering

Numbering the function keys ([-] [↕] [+] [M]) of the thermostat is not necessary. The two left and right push buttons are numbered as usual in the TX100's Num mode.

## 3. Regulator functions


The room controller and regulator calculates the output value for the heating outputs using the ambient temperature and the setpoints set on the base of a chrono-proportional control. The room controller and regulator allows controlling heating outputs (the regulator emits % values) as well as lighting outputs (the regulator emits ON / OFF commands).

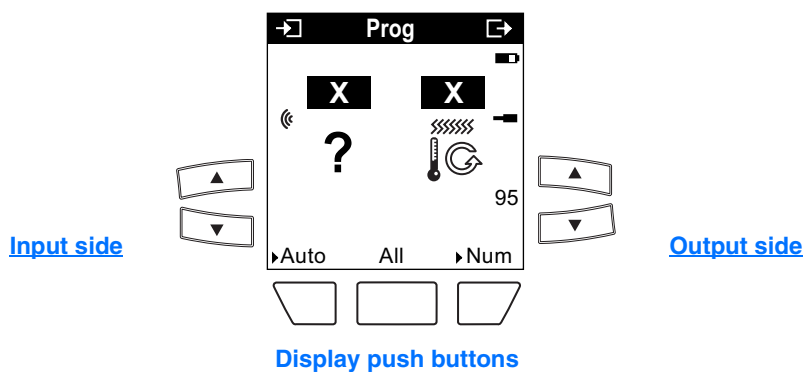
The regulator allows setting up too different link types:

- Link with heating outputs, lighting outputs connected with heating circuits (3.1 "Linking the regulator with the output" Page 19),
- Link with inputs which modify the behaviour of the thermostat: Activation of the various modes (Comfort, Standby, Reduced, Frost protection) (3.2 "Linking the regulator with inputs" Page 20).



### 3.1 Linking the regulator with the output


**Caution:** The TXA204x and TXA206x output modules must be switched over to the Heating function with the TX100 before learning the product. The switch-over is only possible in Default value / Factory configuration (configuration at delivery) of the output modules. "To switch to Heating mode, put the switch on the front side of the TXA206x / 204x device on Manual; then press immediately both device push buttons 1 and 2 for more than 3 seconds". The switching to Heating mode is indicated by the LEDs blinking on the front side for 5 sec. The TXA204x and TXA206x output modules can only be switched completely (all outputs of the device).

After switching the outputs and learning all input and output devices (with the  push button) and numbering the push button inputs (pressing each push button in Num mode), the following informations appear on the LCD display of the TX100 in Prog mode:

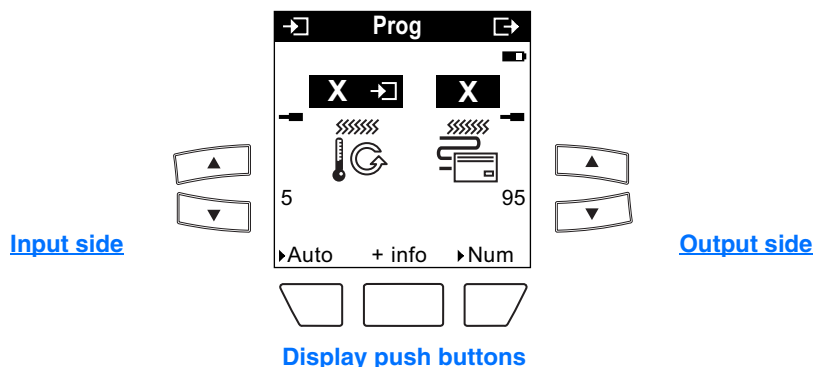


**X** symbolizes a possible input or output number.

The inputs and outputs can easily be selected using the TX100's  and  keys.

The  key allows switching from the **X** input number zone to **?** function selection.

To assign a regulator to an output (heating circuit), it is indispensable to switch the display of the TX100 to the + Info mode. This is done by pressing the central key underneath the display ( ). This operation is not possible while the Expert mode is activated:



**X** symbolizes a possible input or output number.

Select the room controller and regulator with the push buttons on the left side of the TX100 and select a heating output with the push buttons on the right side of the TX100. Selecting a lighting output to which a heating circuit is connected is possible as an alternative.

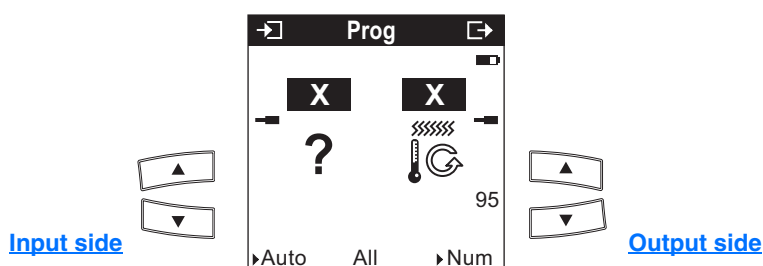
The key links the room controller and regulator with an output.

### 3.2 Linking the regulator with inputs

Inputs may be linked with the room controller and regulator to carry out the following functions:

- Activation of the modes: Comfort, Night set-point, Economy and Frost protection.
- Activation of the Comfort mode for a limited duration (duration can be set).
- Priority activation of the Comfort and Frost protection modes.
- Stop of the heating / air conditioning mode.
- Integration of the room controller and regulator in a scenario.

To use these functions, select the room controller and regulator symbol on the right side of the TX100 in Prog mode.



**X** symbolizes a possible input or output number.

The inputs and outputs can easily be selected using the TX100's and keys.

The key allows switching from the **X** input number zone to ? function selection.

### 3.2.1 Heating mode

Function of the input to be assigned		Description	Operation
	Not used	Default value	Selection of the available functions using the TX100's scroll keys.
	Comfort - Presence	This function activates the Comfort mode of the room controller and regulator.	Press on the key: Comfort mode activation. This activation is cancelled by any other mode activation.
	Night set-point	This function selects the Reduced setpoint of the room controller and regulator.	Press on the key: Reduced mode activation. This activation is cancelled by any other mode activation.
	Time limited comfort	The Time limited comfort function activates comfort mode for an adjustable period. The duration of the activation is selected after validation of 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.	Short (<0.5-s) key press: Activation of the Comfort mode for the set time.  Long (>0.5 s) push button press: Back to the original mode.  When the activation time has elapsed, the thermostat switches back automatically to the original mode.  This activation is cancelled by any other mode activation.
	Eco - Absence	This function selects the Economy setpoint of the room controller and regulator.	Press on the key: Activation of the Economy mode.  This activation is cancelled by any other mode activation.
	Comfort / Standby	The Comfort / Standby function allows switching between these two modes.	Closing of the contact (first push button press) Selection of the Comfort mode.  Opening of the contact (second push button press) Selection of the Standby mode.  This activation is cancelled by any other mode activation.
	Frost protection	The Frost protection function is used to select, when heating, the Frost protection function and, when cooling, the Heat protection function.	Press on the key: Selection of the Frost protection or heat protection.  This activation is cancelled by any other mode activation.
	Comfort priority	The Comfort priority function allows activating and maintaining the Comfort setpoint.	Closing of the contact (first push button press) Priority of the Comfort setpoint.  Opening of the contact (second push button press) Priority is cancelled.  Priority has the highest priority. No other command is taken into account if a priority is active.  After Priority cancellation, back to the original mode.  This command can possibly be cancelled by another priority command (Frost protection) or by a Stop command.

Function of the input to be assigned		Description	Operation
	Priority frost protection	The Frost protection Priority function allows activating and maintaining the Frost protection setpoint.	<p>Closing of the contact (first push button press) Priority of the Protection setpoint (Frost protection or Equipment protection).</p> <p>Opening of the contact (second push button press) Priority is cancelled.</p> <p>Priority has the highest priority. No other command is taken into account if a priority is active.</p> <p>After Priority cancellation, back to the original mode.</p> <p>This command can possibly be cancelled by another priority command (Comfort) or by a Stop command.</p>



The following table shows, for each of the setpoints, the symbols used on the various thermostats.

Set points	Icon		
	WYT61X	TX460	TX320
Comfort			
Standby			
Night set-point			
Frost protection			
Heat protection			Function not available

### 3.2.2 Stop

Function of the input to be assigned		Description	Operation
	Stop	The Stop command stops the heating or the air-conditioning.	<p>Closing of the contact: Stop of the heating or air-conditioning.</p> <p>Opening of the contact: Cancellation of the Stop command.</p> <p>The Stop command has the highest priority. During Stop, the temperature regulator operates using the defined Frost protection and Equipment protection temperature values.</p>

### 3.2.3 Scene

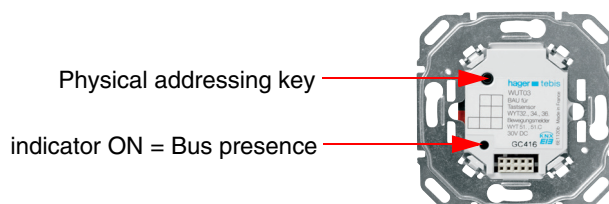
Function of the input to be assigned		Description	Operation
 to 	Scene 1 to 8	Various output types (e.g. lighting, shutters / blinds, heating setpoint selection) can be linked to all scenes (No. 1 to 8).  The regulator can be switched to a predefined mode (Comfort, Economy, Reduced, Frost protection / Equipment protection).	Short (<0.5-s) key press: The room controller and regulator switches to the mode stored for this scene.  Long (>6 s) push button press: The currently active mode is stored for this scene in the room controller and regulator.

## 4. Characteristics

Max. number of group addresses	252
Max. number of links	254

## 5. Bus presence test

To check for the presence of the bus, press the push button located on the mechanism:



Caution: press again on the key. This is indispensable to be able to select the function of the device.

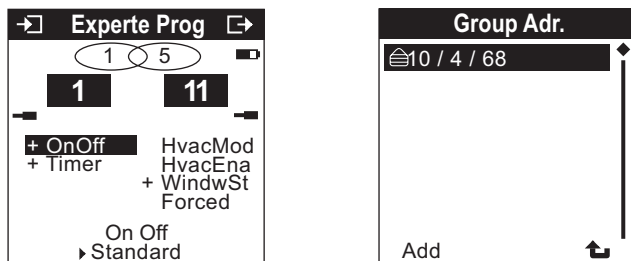
## 6. Expert mode programming

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

Expert mode includes the following functions:

- 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, RF KNX) and Hager devices such as technical alarms, displays, Internet gateways.
- Programming of mixed installations (EIB / KNX and Tebis TX): Expert mode allows integrating KNX RF products in an installation parameterised with ETS.
- Programming of additional functions: To maintain ease of programming in Standard mode, some of the device's functions may not be available in that mode. Therefore, some specific solutions are reserved for Expert mode (e.g. indication of the outdoor temperature on the screen).

Example of an Expert mode display:



The following pages describe the room controller and regulator objects visible in Expert mode. Basic information on Expert mode operation can be found in specific documentation.

## 6.1 Room controller and regulator objects and functions in Expert mode

### 6.1.1 Mode selection function

Operating modes:

Value	Designation	Icon
00	Auto	
01	Comfort	
02	Standby	
03	Reduced (night)	
04	Frost protection	

Tebis Tx		ETS WDL620A application			Function
Icon	Object name	Object designation	Length	Flags	
	HvacMod	Thermostat Set point selection	1 byte	CRW - U	Switching between the Comfort, Economy, Reduced, Frost protection modes. (refer to the table).
	HvacMod	Status indication Current mode	1 byte	CR - TU	Current mode indication. (refer to the table).

### 6.1.2 Stop and Windows contact function (Frost and Heat protection)

Tebis Tx		ETS WDL620A application			Function
Icon	Object name	Object designation	Length	Flags	
	HvacEna	Heating Stop	1 bit	CRW - U	Stop with value 0, Authorize with value 1. During Stop, the room controller and regulator operates using the Frost protection temperature setpoint.
	WindwSt	Thermostat Windows contact	1 bit	CRW - U	Activation of the Frost and Heat protection with the value 1 (window open) Deactivation of the Frost and Heat protection 0 (Window closed).



### 6.1.3 Priority function for the Comfort and Frost protection modes

This function allows forcing the Priority of the room controller and regulator.

Value		Output behaviour
Bit 1	Bit 0	
0	0	Priority end
0	1	Priority end
1	0	Priority OFF (Frost protection)
1	1	Priority ON (Comfort)

Tebis Tx		ETS WDL620A application			Function
Icon	Object name	Object designation	Length	Flags	
	Forced	Thermostat Priority	2 bit	CRW - U	This object allows selecting with priority the Comfort (OFF Priority) and Frost protection / Heat protection (ON Priority) modes.

### 6.1.4 Timer-controlled Comfort mode function



Tebis Tx		ETS WDL620A application			Function
Icon	Object name	Object designation	Length	Flags	
	Timer	Thermostat Time limited comfort	1 bit	CRW - U	<p>Activation of the timer-controlled Comfort mode with value 1. With value 0, the timer is switched off and the device returns to the active mode.</p> <p>The duration must previously be transferred into the parameters of the regulator using a TX100 standard programming.</p>

### 6.1.5 Scene function

With a value between 0 and 7, this object allows calling the defined modes (Comfort, Standby, Reduced, Frost protection / Heat protection) for the scenes 1 to 8 (value= 0 corresponds to scene 1 and value= 7 corresponds to scene 8). The currently set mode is stored for the corresponding scene with the values 128 to 135 [(scene number-1) + 128].

Bit no.							
7	6	5	4	3	2	1	0
Store	X	Scene Number (0 means Scene 1)					

X = Not significant

Tebis Tx		ETS WDL620A application			Function
Icon	Object name	Object designation	Length	Flags	
 ... 	Scene	Thermostat Scene	1 byte	CRW - U	Call for a scene with a value between 0 to 7. Storing of the mode for the corresponding scene number with a value between 128 to 135.

### 6.1.6 Comfort temperature setpoint function

Tebis Tx		ETS WDL620A application			Function
Icon	Object name	Object designation	Length	Flags	
	ComfSetP	Thermostat Comfort temperature set point	2 bytes	CRW - U	This object allows setting the temperature setpoint for the Comfort mode via the bus.

### 6.1.7 Floor temperature limit function

Tebis Tx		ETS WDL620A application			Function
Icon	Object name	Object designation	Length	Flags	
	FloorTemp	Thermostat Floor temperature	2 bytes	CRW - U	If the regulator receives with a maximum interval of 30 minutes a floor temperature value on this object, it limits the floor temperature at 28 °C.

### 6.1.8 External temperature limitation Function

Tebis Tx		ETS WDL620A application			Function
Icon	Object name	Object designation	Length	Flags	
	QutTemp	Thermostat Outdoor temperature	2 bytes	CRW - U	If the regulator receives cyclically the external temperature on this object, it limits the heating power called for by the regulator according to the external temperature. The maximum cycle time must not exceed 30 minutes.



### 6.1.9 Ambient temperature function

Tebis Tx		ETS WDL620A application			Function
Icon	Object name	Object designation	Length	Flags	
	RoomTemp	Thermostat Ambient temperature	2 bytes	CRW - U	If the regulator receives cyclically a value on this object, it will use this temperature instead of the temperature measured by the regulator. The maximum cycle time must not exceed 30 minutes.

### 6.1.10 Room temperature function

Tebis Tx		ETS WDL620A application			Function
Icon	Object name	Object designation	Length	Flags	
	AmbTemp	Status indication Ambient temperature	2 bytes	CR - TU	With this object, the regulator sends the room temperature (Room temp) on the bus.

### 6.1.11 Heating rate emission

Tebis Tx		ETS WDL620A application			Function
Icon	Object name	Object designation	Length	Flags	
	% Value	Heating Valve position %	1 byte	CR - TU	Heating rate emission to the heating output (%).
	OnOff	Heating Valve position ON / OFF	1 bit	CR - TU	Heating rate emission to the switching output (ON / OFF).

### 6.1.12 Heating / Air-conditioning Status indication

Tebis Tx		ETS WDL620A application			Function
Icon	Object name	Object designation	Length	Flags	
	HeatCool	Status indication Heating / Air-conditioning	1 bit	CR - TU	This object allows the regulator to send the regulation type set (heating or air-conditioning).

