















Application description	
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

























Presence/motion detector KNX

Electrical/mechanical data: see the operating instructions for the product

	Order number	Product designation	Application programme	TP product
	TXD501	Presence/motion detector KNX 360° flush-mounted detection Ø10m - Flush MINI KNX 10M		
	TXD503	Presence/motion detector KNX 360° flush-mounted detection Ø10m - Flush Medium KNX 20M		
	TXD505	Motion detector corridor KNX 360° flush-mounted detection 5x30m - Flush Medium KNX Corridor		
	TXC513	Presence/motion detector KNX 360° surface mounted detection Ø20m- Surface Medium KNX 20M		
	TXC515	Motion detector KNX corridor 360° surface mounted detection 5x30m - Surface Medium KNX Corridor		
	TXC518	Motion detector highbay KNX 360° surface mounted detection height 8m		

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1. General

1.1 General information about this application description

This document describes the programming and parameterisation of easy compliant KNX products with the aid of the *configuration tool*.




1.2 Programming software configuration tool

The application programs for the KNX products are already preinstalled in the configuration tool.

-  If the current application software is not available in the configuration tool, then the configuration tool must be updated (see "Configuration tool" installation handbook).

1.3 Commissioning

The commissioning process for the motion detector (PIR) refers primarily to the linking of the motion channels (referred to in the information that follows as inputs) and the switch actuator outputs (referred to in the information that follows as outputs) as well as the selection of the respective functions (Switching, Dimming, Roller shutter/blind, etc.).

-  The commissioning process for the configuration tool can be found in the corresponding instructions.
-  Programming with the configuration tool is restricted to just one bus line and does not require a line coupler. As a result, it is possible to combine wired and wireless-network (quicklink ) KNX devices.

2. Functional and device description

2.1 Device overview

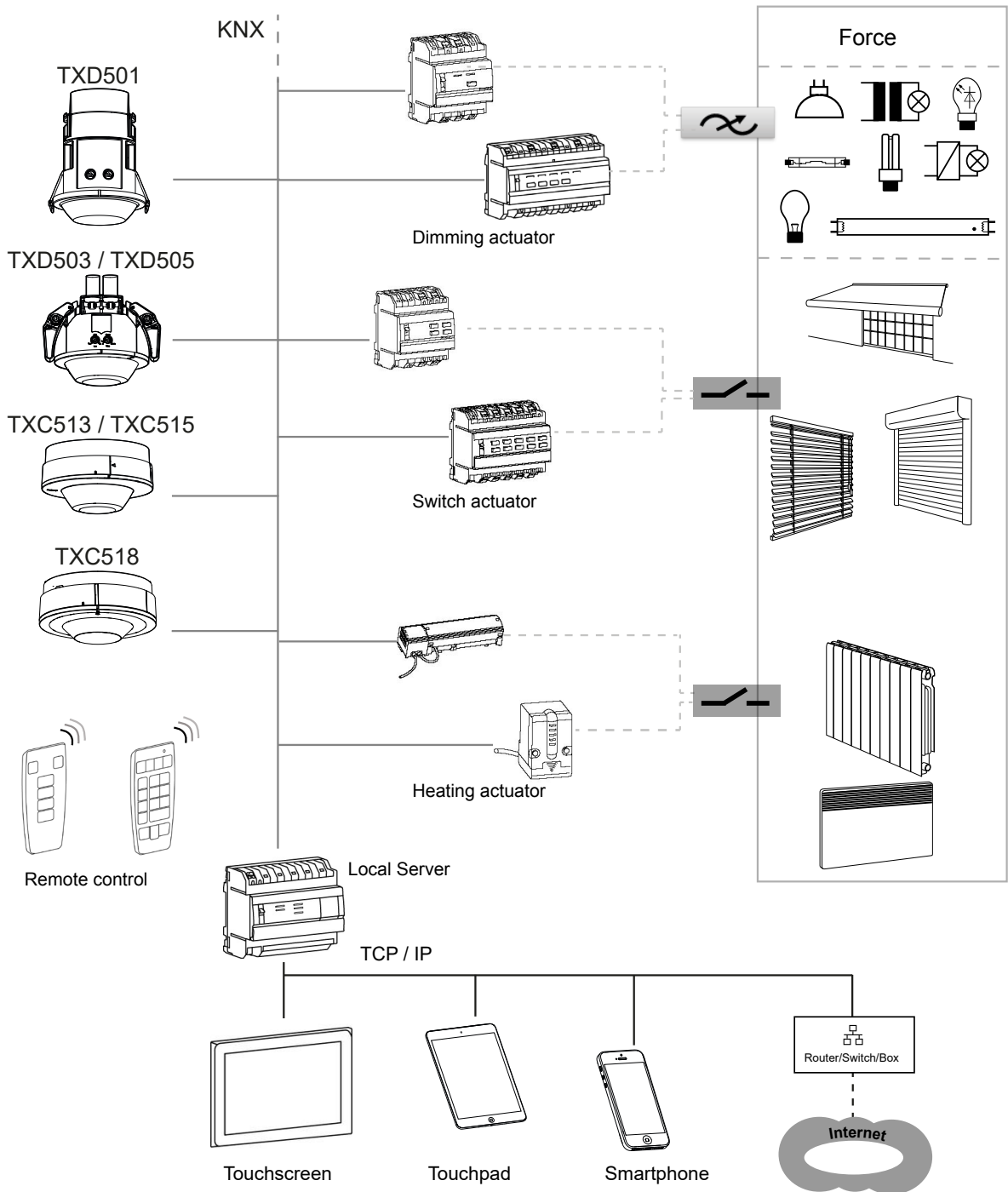


Figure 1: Device overview

2.2 Range description







TXD501	TXD503	TXD505
Presence/motion detector KNX 360° flush-mounted detection Ø10m	Presence/motion detector KNX 360° flush-mounted detection Ø10m	Motion detector corridor KNX 360° flush-mounted detection 5x30m
Flush MINI KNX 10M	Flush Medium KNX 20M	Flush Medium KNX Corridor
		
TXC513	TXC515	TXC518
Presence/motion detector KNX 360° surface mounted detection Ø20m	Motion detector KNX corridor 360° surface mounted detection 5x30m	Motion detector highbay KNX 360° surface mounted detection height 8m
Surface Medium KNX 20M	Surface Medium KNX Corridor	Surface Medium KNX High bay
		

Table 1: Range description

2.3 Functional description

The motion detector module works with a passive infrared sensor (PIR) and responds to heat motions caused by persons, animals or objects according to IEC 63180. Motion detectors are primarily used in hallways or staircases as a means of switching lights on and off based on brightness levels and motion.

Based on the set parameters, the device transmits telegrams for directing the building functions into the bus system. There is the option of transmitting Switching, Dimming, Roller shutter or Heating/cooling telegrams to the bus.

Multiple detectors may work together in a main/extension unit configuration (master/slave) if detection needs to be carried out in applications that are larger than the detection field (such as long hallways and staircases).

It is also possible to configure the response brightness and the delay time manually using the potentiometer on the device.

2.4 Functional overview

The functions described in the following section enable the individual configuration of the device inputs or outputs.

2.4.1 No function

The **No function** function means that no function is assigned to the button.

2.4.2 Lighting

Timer

The **Timer** function enables the actuator output to be switched on for an adjustable duration. The switching time can be interrupted before the delay time elapses. An adjustable switch-off warning signals the end of the delay time by inverting the output state for 1 s. The timer duration and the switch-off warning, if applicable, must be set in the switch actuator.

Priority ON - Priority OFF

The **Priority** function makes it possible to specify a defined state or to force a defined state of the function

ON automatic control

The **ON automatic control** function is used to switch on the corresponding actuator output during motion detection. To switch off this output again, an OFF command must be issued by another device, such as a push-button.

OFF automatic control

The **OFF automatic control** function is used to switch off the corresponding actuator output during motion detection. To switch this output back on, an ON command must be issued by another device, such as a push-button.

ON/OFF automatic control

The **ON/OFF automatic control** function is used to switch on the corresponding actuator output during motion detection for the time set on the device. Once this time has elapsed, the output is switched off again.

Scene

In the **Scene** function, several switching/dimming/blind outputs can be grouped together and switched on during motion detection. It is possible to choose from a maximum of 8 scenes.

Scene switch

This function can be used to switch between two scenes during motion detection.

2.4.3 Dimming

Dimming automatic control

With the **Dimming automatic control** function, the dimming output that is configured in each case is switched on at a set dimming value during motion detection. To switch off this output again, a command must be issued by another device, such as a push-button.

Dimming automatic control switch


With the **Dimming automatic control switch** function, the set dimming value 1 is switched on first during motion detection; once the time set on the device has elapsed, a switch is then made to the second value, dimming value 2.

Scene

In the **Scene** function, several switching/dimming/blind outputs can be grouped together and switched on/off at the touch of a button. A maximum of 8 scenes can be created.

Scene switch

This function can be used to switch between two scenes during motion detection.

 All functions from the **Lighting** function group can be linked with a dimming output. However, only the relevant **switching command** is executed in the ON/OFF output.

2.4.4 Roller shutter

The shutter" function allows blinds, shutters, awnings or similar hangings to be opened and closed.

Up/down

With this function, the roller shutter/blind is moved to the top final position during motion detection. Once the time set on the device has elapsed, the roller shutter/blind is moved to the bottom final position (operation times to the top/bottom final position must be set in the relevant roller shutter output).

Down/up

With this function, the roller shutter/blind is moved to the bottom final position during motion detection. Once the time set on the device has elapsed, the roller shutter/blind is moved to the bottom final position (operation times to the top/bottom final position must be set in the relevant roller shutter output).

Up switch / Down switch

With these functions, the roller shutter is moved into either the top or the bottom final position during motion detection, and can be moved in the opposite direction by a command from a push-button, for example.

Priority Up - Priority Down

With these functions, it is possible to impose the up/down command in a roller shutter/blind actuator; in other words, the position that is currently set is interrupted and Priority mode is switched on. The Priority function makes it possible to specify a defined state or to force a defined state of the function., Example: window cleaner function.

Position shutter automatic control

With this function, the roller shutter is moved to the set position during motion detection.

Position slat automatic control

With this function, the slat angle setting is moved to the set position during motion detection.

Position shutter and slat automatic control

With this function, the roller shutter/blind and the slat angle are moved to the set position during motion detection.

Position shutter switch automatic control

With this function, the roller shutter is moved to set Position 1 during motion detection and then, when the set delay time has elapsed, to Position 2.

Position slat switch automatic control

With this function, the slat angle is changed to the Slat angle 1 position during motion detection and then, when the delay time has elapsed, to the Slat angle 2 position.

Position shutter and slat switch automatic control

With this function, the roller shutter/blind is moved to Position 1/Slat angle 1 during motion detection and then, when the delay time has elapsed, to Position 2/Slat angle 2.

Scene









In the **Scene** function, several switching/dimming/blind outputs can be grouped together and switched on/off at the touch of a button. A maximum of 8 scenes can be created.

Scene switch

This function can be used to switch between two scenes during motion detection.

2.4.5 Heating/cooling

Operating mode

- Mode Comfort 
- Mode Eco 
- Mode Standby 
- Mode Protection 
- Mode Comfort automatic control 
- Mode Eco automatic control 
- Mode Standby automatic control 
- Mode Protection automatic control 

With one of these functions, a switch is made to the relevant operating mode – Comfort, Eco, Standby or Protection – during motion detection.

Mode switch - Mode switch automatic control

With this function, heating/cooling mode 1 is set during motion detection and, after a set delay time, heating/cooling mode 2 is set.

Priority Comfort - Priority Protection

With one of these functions, it is possible to impose the Comfort/Protection mode in a thermostat; in other words, the Heating/cooling function which is currently running is interrupted and Priority mode is switched on. The Priority function makes it possible to specify a defined state or to force a defined state of the function.

Scene


In the **Scene** function, several switching/dimming/blind outputs can be grouped together and switched on/off at the touch of a button. A maximum of 8 scenes can be created.

Scene switch

This function can be used to switch between two scenes during motion detection.

3. Project preparation

The following sections describe the configuration of the parameters for the different types of devices in the motion detection module. The only difference between the functions of the devices is their type and the height at which they are installed. For this reason, only the variant presence/motion detector KNX 360° flush mounted detection Ø10m (TXD501) will be described.

 The **configuration tool** is used for parameterisation and commissioning.

If all devices are integrated into the project, then you can start configuring the device.

3.1 Project editing

To ensure that the commissioning process with the **configuration tool** is successful, the following requirements must be met:

- ✓ A network connection to the **configuration tool** has been established.
- ✓ All of the devices used (wired and wireless) are connected to the **configuration tool**.
- ✓ Start the **configuration tool** software (browser version or tablet app).
- ✓ Create the project and enter the project-specific data (project name, address, customer data).
- ✓ Click on search to scan devices.

The **configuration tool** has scanned the device and started with the parameterisation.

3.2 Device choice

First of all, the corresponding device must be selected in the device listing to make it possible to start with the configuration.

- Click on the **Presence detector, 360°, built-in** in the device overview.

The following view opens (Figure 2).

All of the device inputs and device outputs are listed on the right-hand side (Figure 2, 1).

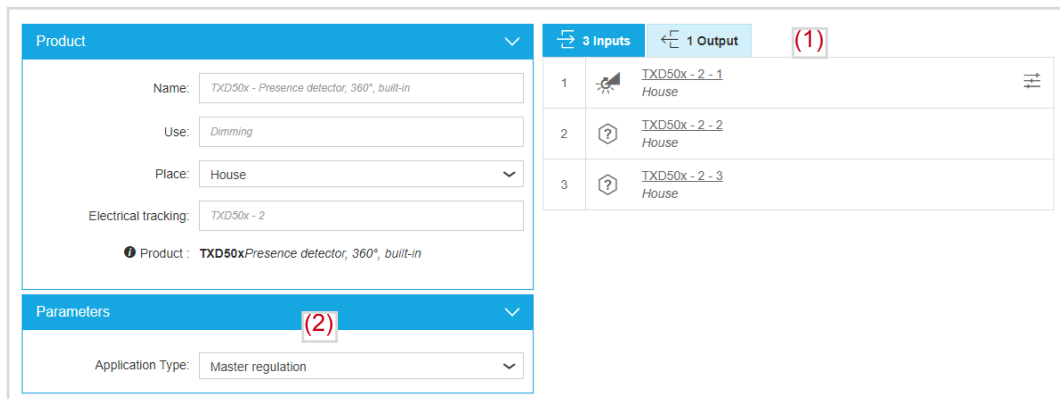


Figure 2: Device information

3.2.1 Menu field - parameters

The settings for the detection area and the type of application must be made under Parameters (Figure 2, 2). These settings are made for the complete device.

The device has three specific applications:

- Master regulation
- Master ON/OFF
- Slave

The master or slave application must only be used in a combination of these versions. One device, acting as the master, is linked to one or more slave devices (depending on the size of the monitoring area). This version is particularly suitable for monitoring staircases, large hallways and large rooms.

Application
Master regulation
Master ON/OFF
Slave

Table 2: Setting the application

Parameters	Description
Master regulation*	With this parameter, the motion detector for the application is set as the master device . with a regulation channel
Master ON/OFF	With this parameter, the motion detector for the application is set as the master device with an ON/OFF channel .
Slave	With this parameter, the motion detector for the application is set as the slave device . ⓘ This version requires a second motion detector to act as a master device.

Table 3: Selecting the device application

* Default value

3.3 Overview inputs/outputs

The number of device inputs and outputs is determined by the device application used (**master regulation** device, **master ON/OFF** device, **slave** device).

The figures below show the inputs for the motion detector on the left-hand side and the outputs for the motion detector on the right-hand side.

3.3.1 Master regulation

3 inputs		1 output	
	TXD50X - 1 -1 <i>House</i>		TXD50X - 1 -1 <i>House - common function</i>
	TXD50X - 1 -2 <i>House</i>		
	TXD50X - 1 -3 <i>House</i>		

Table 4: Overview of inputs/outputs - master regulation

In the **master regulation** version, the device has three inputs and one output.

- Input 1 : Regulation channel
The "Dimming" function is assigned to this input permanently. This function operates in conjunction with the corresponding master function
- Inputs 2 - 3 : Detection channel
The "Lighting – Dimming – Roller shutter – Heating/cooling" functions can be assigned to inputs 2 - 3.
- Output 1: Master channel
This output is used to forward the motion detector function to a slave device

3.3.2 Master ON/OFF

3 inputs		1 output	
	TXD50X - 1 -1 <i>House</i>		TXD50X - 1 -1 <i>House - common function</i>
	TXD50X - 1 -2 <i>House</i>		
	TXD50X - 1 -3 <i>House</i>		

Table 5: Overview of inputs/outputs - master ON/OFF

In the **master ON/OFF** version, the device has three inputs and one output.

- Inputs 1 : ON/OFF channel
The "Lighting – Dimming – Roller shutter – Heating/cooling" functions can be assigned to inputs 1 .
- Inputs 2 - 3 : Detection channel
The "Lighting – Dimming – Roller shutter – Heating/cooling" functions can be assigned to inputs 2 - 3.
- Output 1: Master channel
This output is used to forward the motion detector function to a slave device

3.3.3 Slave

3 inputs		0 output	
	TXD50X - 1 -2 House		
	TXD50X - 1 -3 House		
	TXD50X - 1 -4 House		

Table 6: Overview of inputs/outputs - slave

In the **slave** version, the device has three inputs.

- Inputs 2 - 3 : Detection channel
The "Lighting – Dimming – Roller shutter – Heating/cooling" functions can be assigned to inputs 2 - 3.
- Input 4 : slave channel
The "Motion detection" function is assigned to this input permanently. This function operates in conjunction with the corresponding master function.

3.3.4 Overrun Time

This function starts a delay at each presence detection, it extends the presence period accordingly. The absence period starts at the end of the delay if no new detection is made during the delay.

The following parameters are displayed for each input channel when selecting one of the proposed functions.

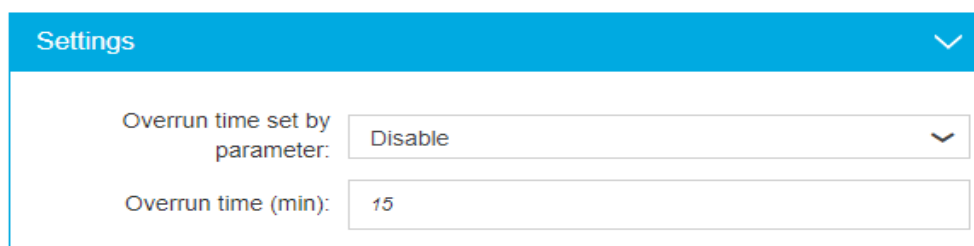


Figure 3: Entering Overrun Time

Parameters	Description	Value
Overrun time set by parameter	This parameter indicates how the overrun time is set. The overrun time is the duration between the last presence detection and the pre-warning or absence event. - the overrun time is set only with the Time potentiometer - the overrun time is set to a fixed value and cannot be changed via the Time potentiometer.	Disable* Enable
Overrun time (min)	Allows defining the time during which the output switches to ON upon a valid presence detection (Brightness below the threshold). If a presence is detected before the end of the delay, the timer is triggered again (Overrun time restarts).	1... 15* ...240 min.

* Default value

4. Configuring motion inputs

The next section describes the functions that need to be executed during motion detection. The first motion input is described in each case. The next input must then be configured accordingly. The functions of the inputs are divided into the following function groups.

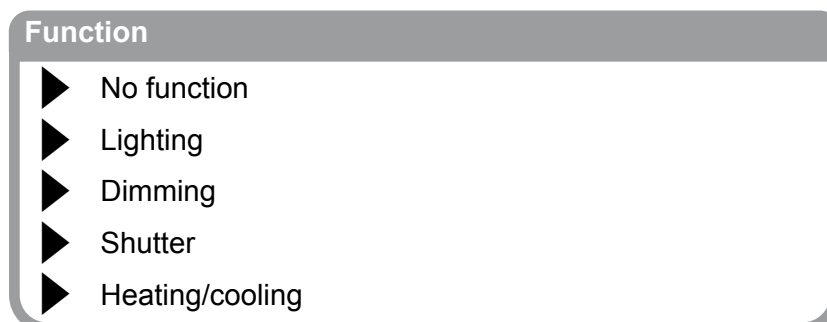



Figure 4: Function selection of the independent push-button

The **No Function** function  is preset at the beginning of the parameterisation. This means that the relevant channel is not active.

The **Lighting**, **Dimming**, **Roller shutter** and **Heating/cooling** functions have different sub-functions, which are described in the following sections.

Parameters	Description	Value
No function *	The input has no function (inactive).	
Lighting	This parameter sets the function of the channel under Lighting .	Timer Priority ON ¹⁾ Priority OFF ¹⁾ ON automatic control OFF automatic control ON/OFF automatic control Scene Scene switch
Dimming	This parameter sets the function of the channel under Dimming .	Dimming automatic control Dimming automatic control switch Scene Scene switch
Shutter	This parameter sets the function of the channel under Shutter .	Up/down Down/up Up switch Down switch Priority Up ¹⁾ Priority Down ¹⁾ Position shutter automatic control Position slat automatic control Position shutter and slat automatic control Position shutter switch automatic control Position slat switch automatic control Position shutter and slat switch automatic control Scene Scene switch

Parameters	Description	Value
Heating/cooling	This parameter sets the function of the channel under Heating/cooling .	Mode Comfort Mode Eco Mode Standby Mode Protection Mode switch Priority Comfort ¹⁾ Priority Protection ¹⁾ Mode Comfort automatic control Mode Eco automatic control Mode Standby automatic control Mode Protection automatic control Mode switch automatic control Scene Scene switch

Table 7: Function during motion detection

¹ Only use with "Master ON/OFF channel"

4.1 Master regulation channel

In the **master regulation** version, the "Dimming" function is assigned to this input permanently. This function operates in conjunction with the corresponding master function

3 inputs		1 output	
	TXD50X - 1 -1 House		TXD50X - 1 -1 House - common function
	TXD50X - 1 -2 House		
	TXD50X - 1 -3 House		

Table 8: master regulation channel

Function Dimming

With the Dimming functions, lighting circuits/lights are switched on/off and dimmed up or down with the appropriate automatic control devices (e.g. motion detector). This means that the dimming values are set automatically and transmitted to the output devices (on/off or dimmer actuators).

Inputs			Outputs	
	TXD50X - 1 -1 House			TXA661- 1 -1 House - Dimming

Figure 5: Linking **Dimming** function

Below are the outputs which can also have these functions:

	Lighting	Controls the ON/OFF output for switching the light on and off. This procedure enables a same input to be connected to an ON/OFF output and to a dimming output.
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It is also possible, with the use of input devices (push button or binary input), to make a link between 2 inputs.

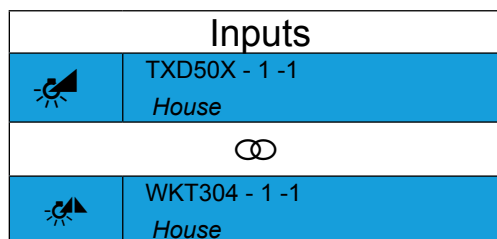


Figure 6: Linking 2 inputs

Below are the inputs which can also have these functions:

Lighting		
	ON	The On/Off functions are used to control the lighting and socket circuits. The two adjacent buttons/ inputs should be parameterised with the functions Lighting On and Lighting Off so that the lighting can be switched on and off by a key
	OFF	
	ON/OFF	Pressing the button switches on the switch actuator channel and releasing the button switches it off again (push-button function). The function can be used to switch on an installation contactor/ self-retaining relay, for example (conventionally wired stairway timer or bell push-button).
	Toggle switch ²⁾	The "Toggle switch" function means changing over. When the "Toggle switch" function is active, pressing the same independent push-button triggers an alternate switching command.
	Priority ON	The Priority function is used to force the output into a defined state. This function the priority or priority cancellation controls to be issued. No other command is taken into account when the Priority is active. Only priority or alarm cancellation commands will be taken into account.
	Priority OFF	
	Priority ON toggle ²⁾	This function allows a switch output to be forced to a switch position regardless of the switching signal (higher priority). As a result, the Priority can be switched on/off with the same button (toggle).
	Priority OFF toggle ²⁾	
	Load shedding ¹⁾	The Load shedding function is used to force an output to OFF. At the end of load shedding, the output is switched to the theoretical status without Load shedding (memorisation).
	ON automatic control ¹⁾	The Automatic control function enables an output to be controlled in parallel to the standard control. An additional command object (Automatic control deactivation) is used to activate or deactivate Automatic control.
	OFF automatic control ¹⁾	
	ON/OFF automatic control ¹⁾	
	Central ON	This function is used to control several lighting circuits and sockets. In opposition to the ON/OFF function, there is no status indication, thus avoiding saturation of group addresses.
	Central OFF	

Lighting

	Central ON/OFF switch ¹⁾	The central ON/OFF control is activated or deactivated depending on the closing or opening of the input contact.
	Scene	The Scene function can be used as a scene extension and can be used to call up or save configured light scenes that are stored in other KNX devices.
	Scene switch ¹⁾	The scene is activated according to the closing or opening input contact.

¹ only usable with binary inputs

² only usable with push-buttons

Dimming

	Dim Up/ON	With the Dimming up (on)/down (off) functions, lighting circuits/ lights are switched on/off with a short press of the button and dimmed up or down with a long press of the button. This means that two buttons are needed dimming. One button for Dimming up (on) and the second button for Dimming down (off).
	Dim Down/OFF	
	Dim Up/Down	With this function, the lighting can be switched on/off with a short press of the button and dimmed up/down with a long press of the same button (toggle).
	Dimming	When the Dimming – dimming value function is selected, the lighting is switched on at a fixed dimming value set previously. The dimming value is entered in an additional menu field as a whole number. The range for the dimming value is between 0 % and 100 %.
	Dim switch ¹⁾	Varies the light with two brightness values defined according to the opening and closing of the input contact.
	Dimming automatic control ¹⁾	This function allows you to dim the light with a defined brightness value using Automatic control.
	Dimming automatic control switch ¹⁾	This function allows you to dim the light with two defined brightness values according to the opening and closing input contact using automatic control.
	Scene	The Scene function can be used as a scene extension and can be used to call up or save configured light scenes that are stored in other KNX devices.
	Scene switch ¹⁾	The scene is activated according to the closing or opening input contact.
	Increase/decrease dimming	Controls the dimming input for dimming the light (Only with TX511 and TXC511).

¹ only usable with binary inputs

4.2 Master ON/OFF channel

In the **master ON/OFF** version, the "Lighting – Dimming – Roller shutter – Heating/cooling" functions can be assigned to inputs 1 .

3 inputs		1 output	
	TXD50X - 1 -1 <i>House</i>		TXD50X - 1 -1 <i>House - common function</i>
	TXD50X - 1 -2 <i>House</i>		
	TXD50X - 1 -3 <i>House</i>		

Table 9: master ON/OFF

Below is a list of the different lighting functions available for input 1.

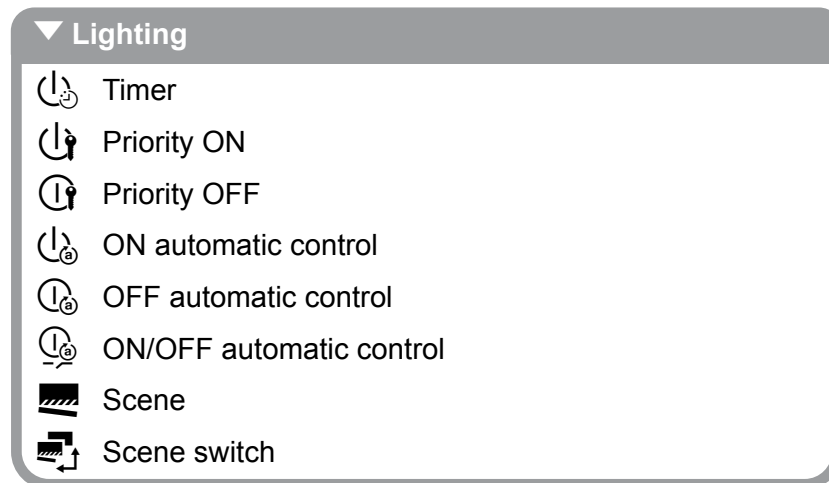


Figure 7: Functional overview lighting

The precise description of these different functions can be found in chapter „4.4 Lighting functions “.

Below is a list of the different dimming functions available for input 1.

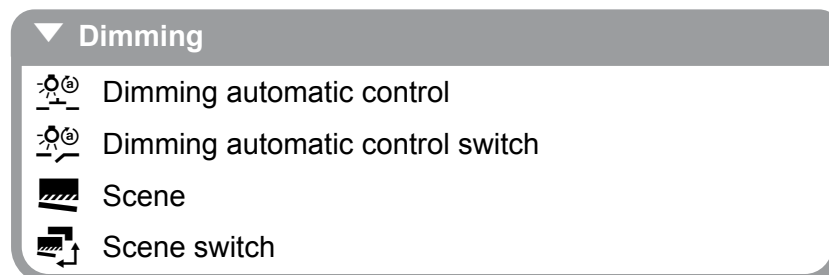


Figure 8: Functional overview **Dimming**

The precise description of these different functions can be found in chapter „4.5 Dimming functions “.

Below is a list of the different Shutter functions available for input 1.



Figure 9: Functional overview **Roller shutter**

The precise description of these different functions can be found in chapter „4.6 Roller Shutter functions“.

Below is a list of the different Heating/cooling functions available for input 1.

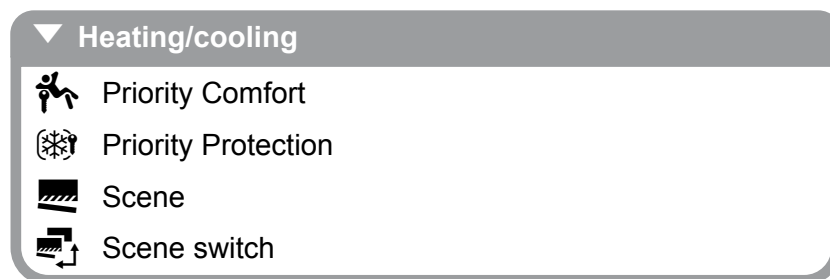


Figure 10: Functional overview **Heating/cooling**

The precise description of these different functions can be found in chapter „4.7 Heating/cooling functions“.

4.3 Master/slave detection channel

In the **master** or **slave** version, the "Lighting – Dimming – Roller shutter – Heating/cooling" functions can be assigned to inputs 2 - 3 (detection channels).

3 inputs		1 output	
	TXD50X - 1 -1 <i>House</i>		TXD50X - 1 -1 <i>House - common function</i>
	TXD50X - 1 -2 <i>House</i>		
	TXD50X - 1 -3 <i>House</i>		

Table 10: Master - Detection channels

3 inputs		0 output	
	TXD50X - 1 -2 <i>House</i>		
	TXD50X - 1 -3 <i>House</i>		
	TXD50X - 1 -4 <i>House</i>		

Table 11: Slave - Detection channels

Below is a list of the different lighting functions available for input 1.

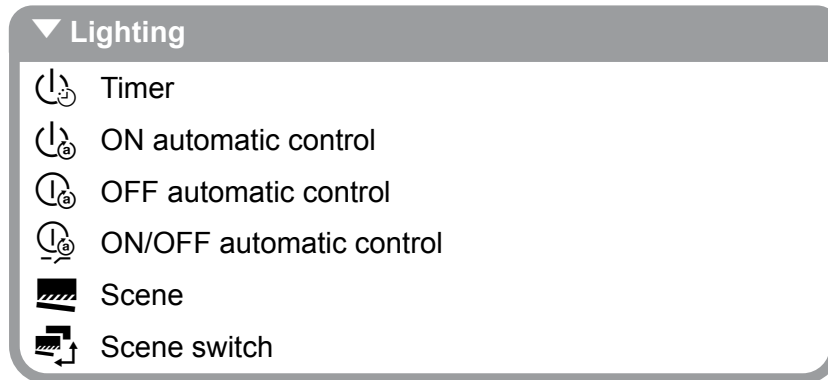


Figure 11: Functional overview lighting

The precise description of these different functions can be found in chapter „4.4 Lighting functions“.

Below is a list of the different dimming functions available for input 1.

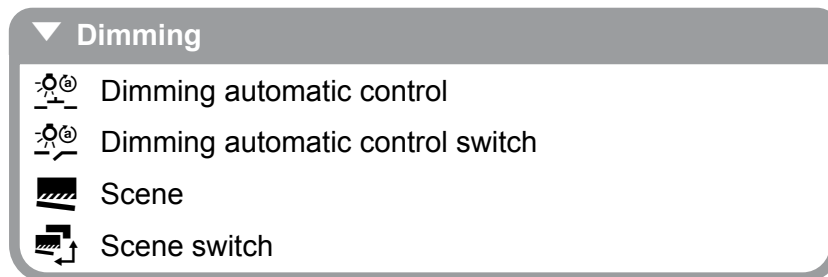


Figure 12: Functional overview **Dimming**

The precise description of these different functions can be found in chapter „4.5 Dimming functions“.

Below is a list of the different Shutter functions available for input 1.

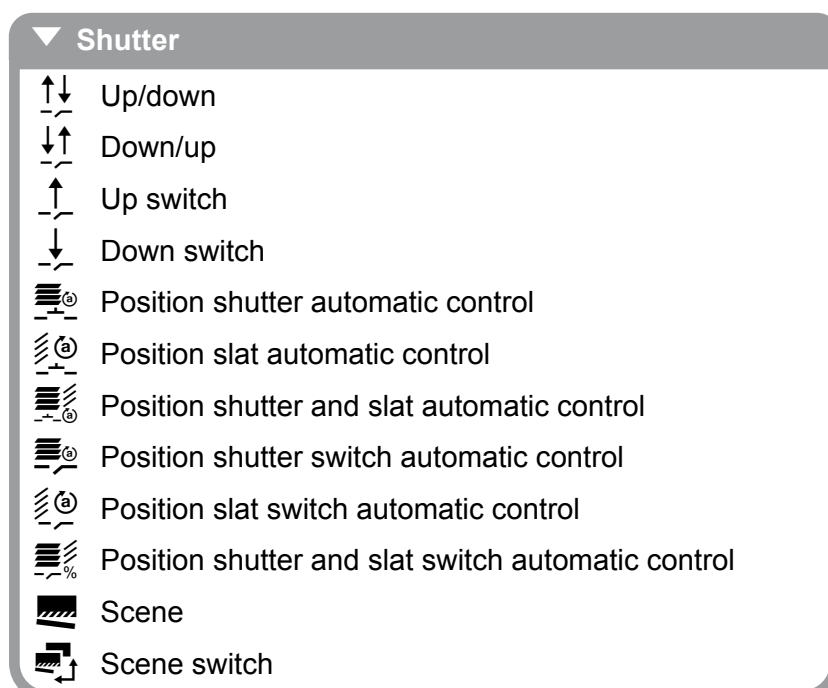



Figure 13: Functional overview **Roller shutter**

The precise description of these different functions can be found in chapter „4.6 Roller Shutter functions “.

Below is a list of the different Heating/cooling functions available for input 1.

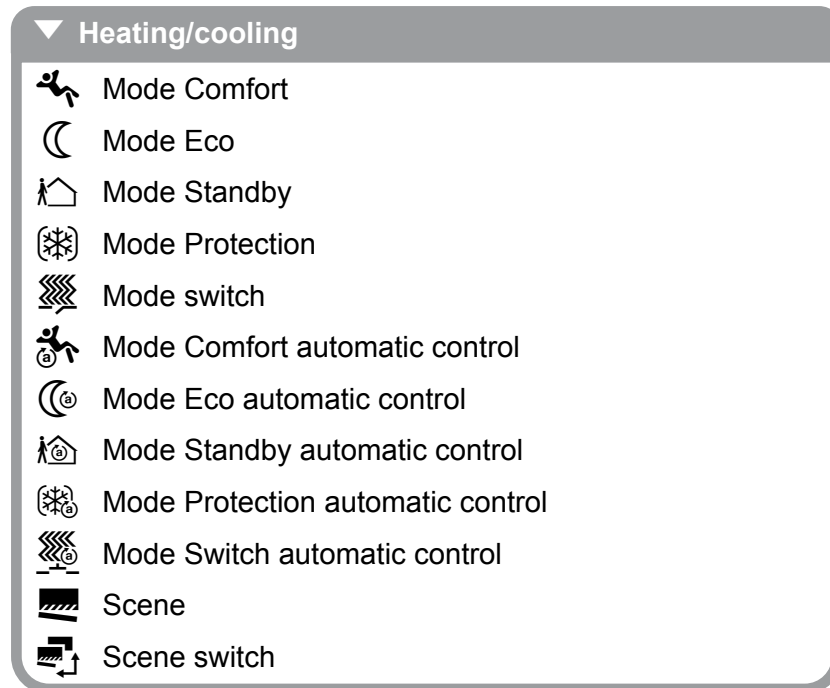



Figure 14: Functional overview **Heating/cooling**

The precise description of these different functions can be found in chapter „4.7 Heating/cooling functions “.

4.4 Lighting functions ☀

The "Lighting" function is used to switch the lighting or socket circuits on/off with a switch actuator.

i All of the combination possibilities between inputs – outputs/inputs are listed at the end of the chapter.

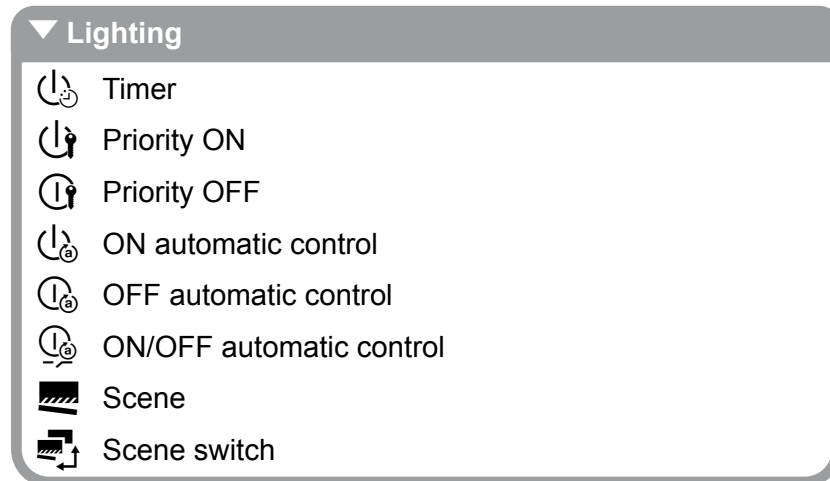


Figure 15: Functional overview lighting

4.4.1 Timer function ⌚

The **Timer** function enables the ON/OFF output to be switched on for an adjustable duration. The switching time can be interrupted before the delay time elapses. An adjustable switch-off warning signals the end of the delay time by inverting the output state for 1 s. The timer duration and the switch-off warning must be set in the switch actuator.

Inputs			Outputs	
	TXD50X - 1 -2 <i>House</i>			TXA610 - 1 -1 <i>House - lighting</i>

Figure 16: Linking **Timer** function

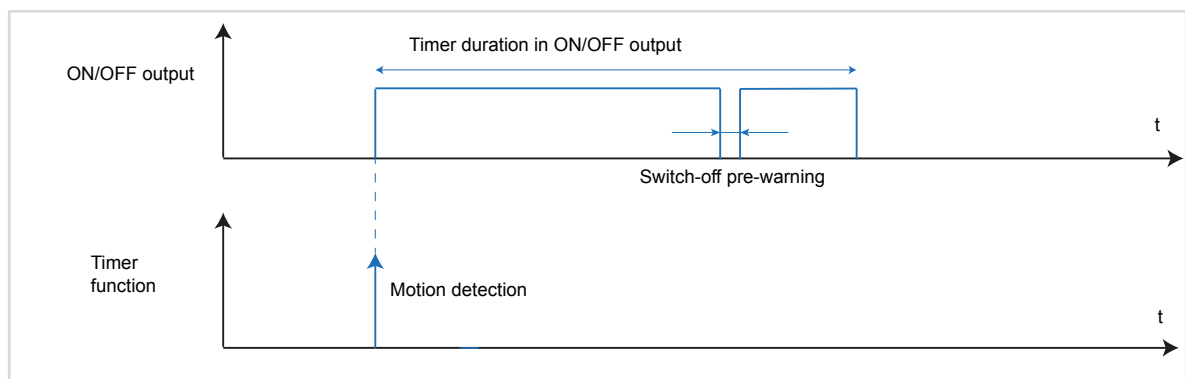


Figure 17: Signal-time diagram for timer

4.4.2 Priority ON - Priority OFF

The Priority function is used to force the output into a defined state. This function the priority or priority cancellation controls to be issued.

No other command is taken into account when the Priority is active. Only priority or alarm cancellation commands will be taken into account.

- **Priority ON:** Allows forcing and keeping the lighting circuit on.

Inputs			Outputs	
	TXD50X - 1 -1 <i>House</i>			TXA610 - 1 -1 <i>House - lighting</i>

Figure 18: Linking **Priority ON** function

Activating the input forces the output to ON.

Successive activation switches between ON priority and priority cancellation.

- **Priority OFF:** Allows forcing and keeping the lighting circuit off.

Inputs			Outputs	
	TXD50X - 1 -1 <i>House</i>			TXA610 - 1 -1 <i>House - lighting</i>

Figure 19: Linking **Priority OFF** function

Activating the input forces the output to OFF.

Successive activation switches between OFF priority and priority cancellation.

4.4.3 ON automatic control

With the **ON automatic control** function, the corresponding ON/OFF output is switched on during motion detection. To switch off this output again, an OFF command must be issued by another device, such as a push-button.

- The delay time set on the device has no effect on the switching performance.

Inputs			Outputs	
	TXD50X - 1 -2 <i>House</i>			TXA610 - 1 -1 <i>House - lighting</i>

Figure 20: Linking **ON automatic control** function

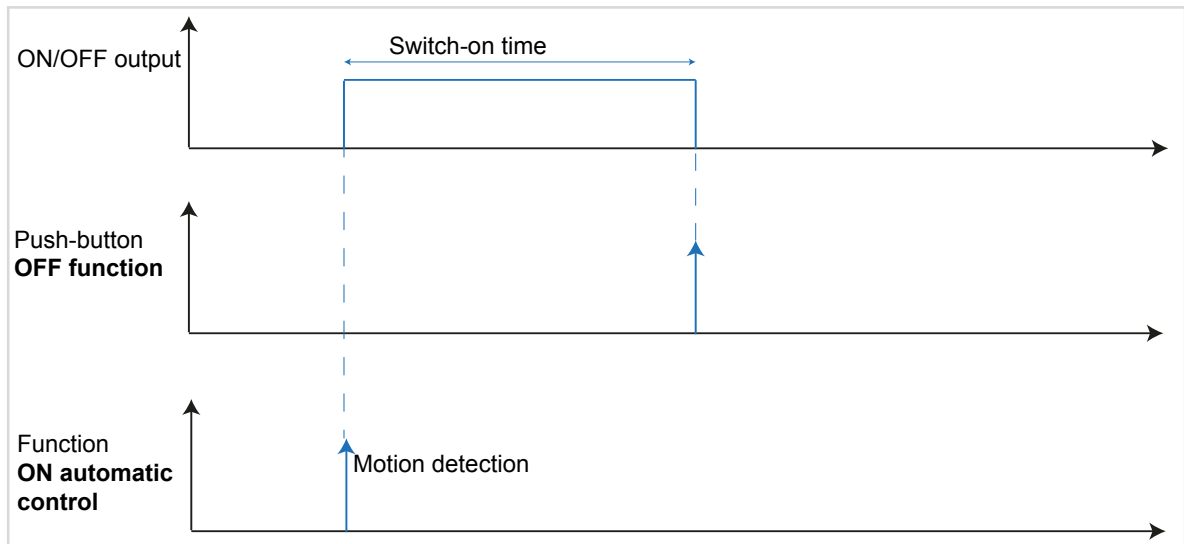



Figure 21: Signal-time diagram for **ON automatic control**

4.4.4 OFF automatic control

With the **OFF automatic control** function, the corresponding ON/OFF output is switched off during motion detection. To switch this output back on, an ON command must be issued by another device, such as a push-button.

 The delay time set on the device has no effect on the switching performance.




Inputs			Outputs	
	TXD50X - 1 -2 <i>House</i>			TXA610 - 1 -1 <i>House - lighting</i>

Figure 22: Linking **OFF automatic control** function

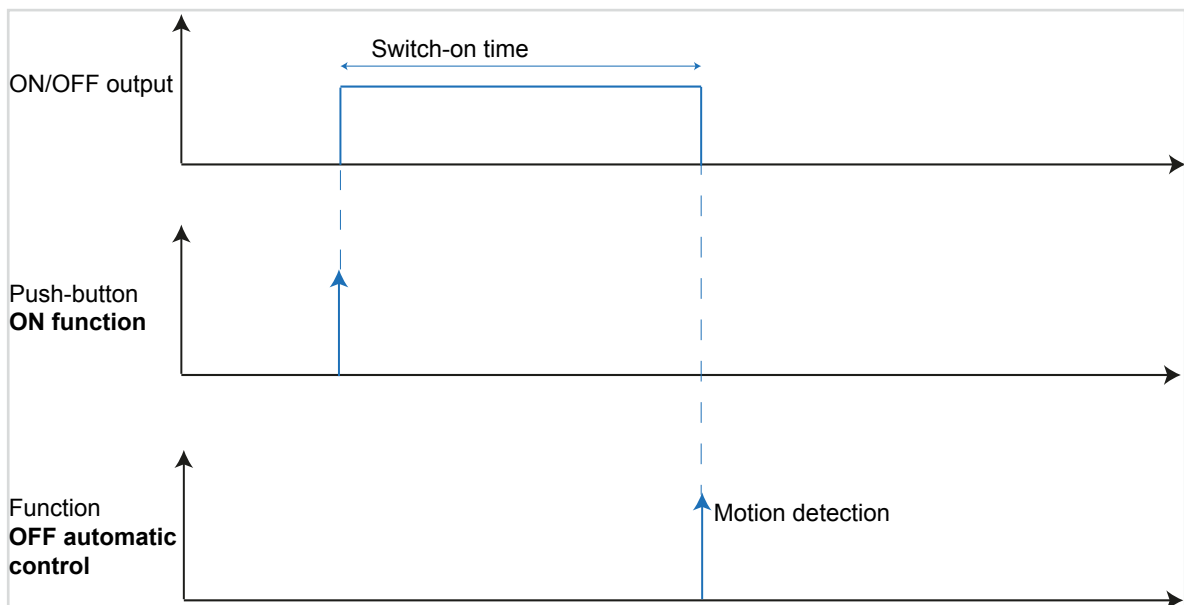


Figure 23: Signal-time diagram for **OFF automatic control**

4.4.5 ON/OFF automatic control

With the **ON/OFF automatic control** function, the corresponding ON/OFF output is switched on during motion detection for the time set on the device and switched off again once this time has elapsed.

Inputs			Outputs	
	TXD50X - 1 -2 House			TXA610 - 1 -1 House - lighting

Figure 24: Linking **ON/OFF automatic control** function

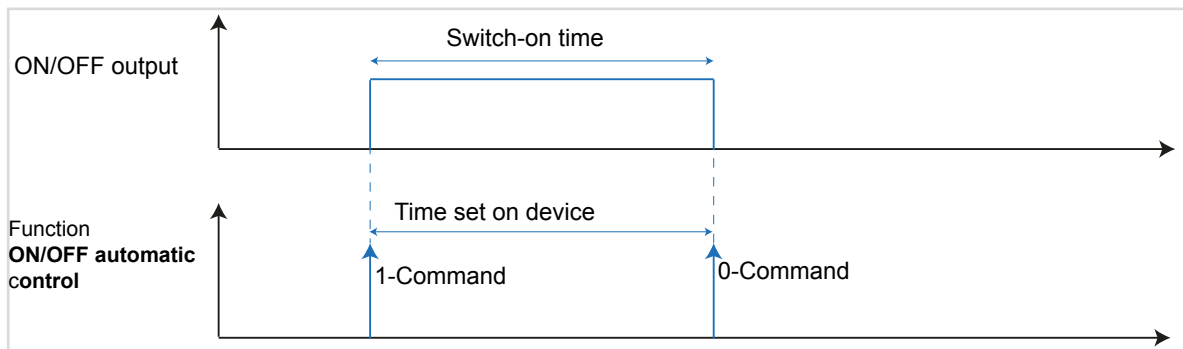


Figure 25: Signal-time diagram for **ON/OFF automatic control**

4.4.6 Scene function

During motion detection, the scene set under Figure 19 is switched on. The device can call up a maximum of 8 scenes.

Inputs			Outputs	
	TXD50X - 1 -2 House			TXA610 - 1 -1 House - lighting

Figure 26: Linking **Scene** function

After selecting the Scene function, an additional menu field opens to determine the scene number. A scene between 1 - 8 can be entered here (Figure 27).

Settings
▼

Scene number 1:

Figure 27: Entering the scene number

The related scene parameter values can be changed with the corresponding operating sections and stored with a long button press.

Example: Scene TV

In the Scene TV example, the typical scene values are changed and then the scene is saved again.

These settings must be made on a push-button or on the corresponding actuators. The example shown here uses a 3gang push-button.

- i The motion detector only switches to the selected scene.
- Switch on scene using a short press of the button (Figure 28, A).
Scene is activated e.g., lighting dimmed to 30%, blind closed to 85%.

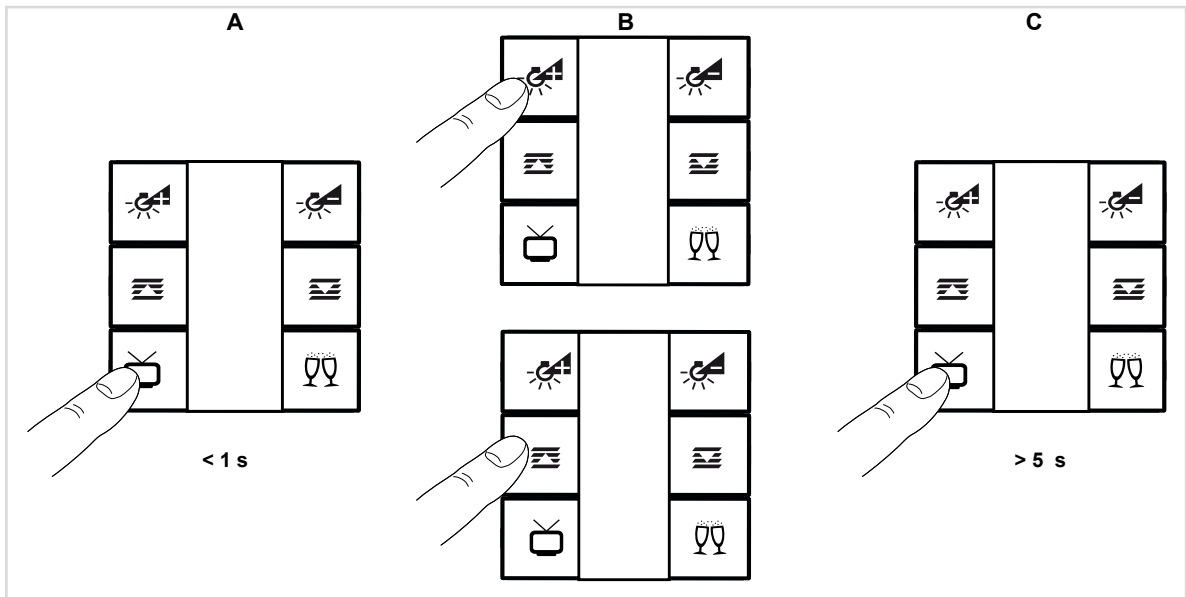


Figure 28: Scene call-up

Set new scene parameters on the push-button (Figure 28, B).

- Change lighting intensity, dim brighter or darker.
- Change blind position
- Hold the button for Scene TV for longer than 5 s (Figure 28, C).

New scene parameters have been saved. Pressing the button again activates the new scene settings.

- i The Save scene by a long key-press function is switched on by default.

4.4.7 Scene switch

During motion detection, the **Scene switch** function starts by activating switching to the scene set under **Scene number 1**. Once the delay time set in the motion detector has elapsed, a switch is made to the scene set under **Scene number 2**.

The Scene switch function can be applied to all function blocks (Lighting, Dimming, Roller shutter and Heating/cooling).

Inputs			Outputs	
	TXD50X - 1 -2 House			TXA610 - 1 -1 <i>House - lighting</i>
				TXA661A - 1 -1 <i>House - dimming</i>
				TXA610 - 1 -1 <i>House - roller shutter</i>
				WUT09 - 1 -1 <i>House</i>

Figure 29: Linking **Scene switch** function

Settings
▼

Scene number 1:

Scene number 2:

Figure 30: Setting scene number 1 and 2

4.4.8 Overview of all possible linking combinations

The following overview shows all linking combination possibilities for the **Lighting** function. It is worth noting that inputs can also be linked with inputs (depending on the function selection).

Linking				
Input			Output	
	TXD50X - 1 -1 House			ON/OFF output
				Dimming output
	TXD50X - 1 -1 House			ON/OFF output
				Dimming output
	TXD50X - 1 -1 House			ON/OFF output
				Dimming output
	TXD50X - 1 -1 House			ON/OFF output
				Dimming output
	TXD50X - 1 -1 House			ON/OFF output
				Dimming output
	TXD50X - 1 -1 House			ON/OFF output
				Dimming output
	TXD50X - 1 -1 House			ON/OFF output
				Dimming output

Figure 31: Combination possibilities **Lighting** input – output

4.5 Dimming functions

With the **Dimming** function, the lighting is switched on at a set dimming value during motion detection.

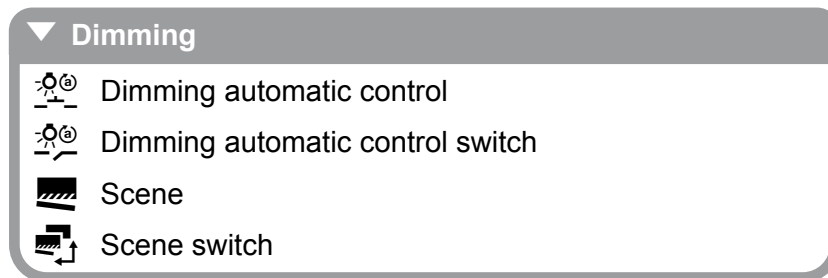


Figure 32: Functional overview **Dimming**

i All functions from the **Lighting** function group can be linked with a dimming output. Only the relevant **switching commands** is executed.

4.5.1 Dimming automatic control

With the **Dimming automatic control** function, the lighting circuits/lighting is/are switched on at a previously set value, dimming value 1, during motion detection (Figure 33). The value to be set, dimming value 1, can be between 0 % (lighting OFF) ... 100 % (lighting ON). The lighting remains switched on until an OFF signal is issued by a push-button, for example.

- i** The time setting on the device itself is not evaluated.
- i** The set timer duration in the dimming output is not evaluated.

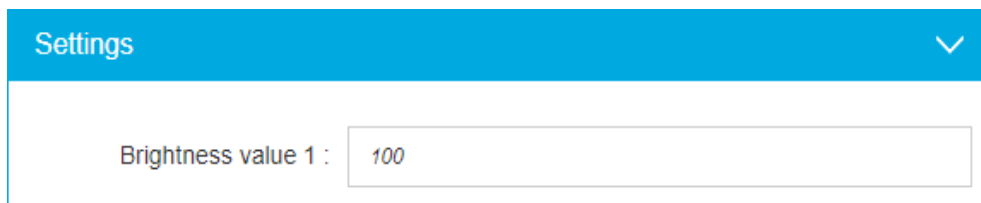


Figure 33: Dimming value setting 1 - **Dimming automatic control**




Inputs			Outputs	
	TXD50X - 1 -1 <i>House</i>			TXA661A - 1 -1 <i>House - lighting</i>

Figure 34: Linking **Dimming automatic control** function

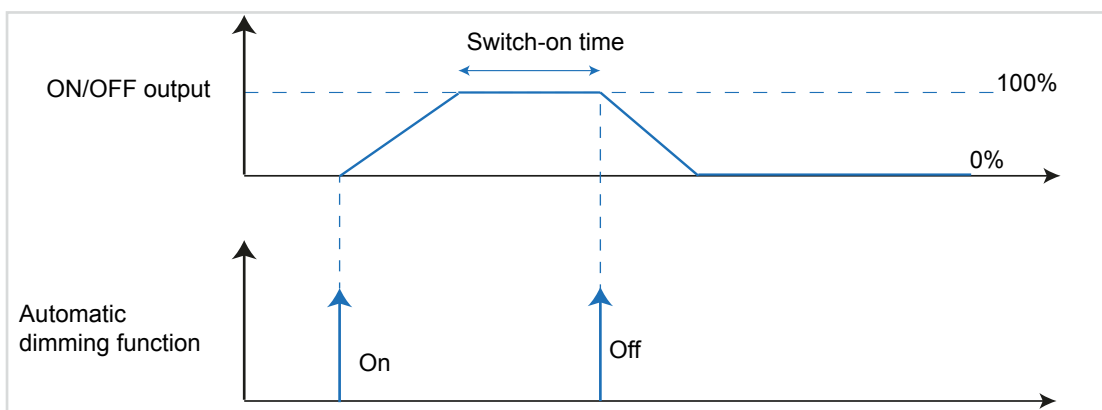


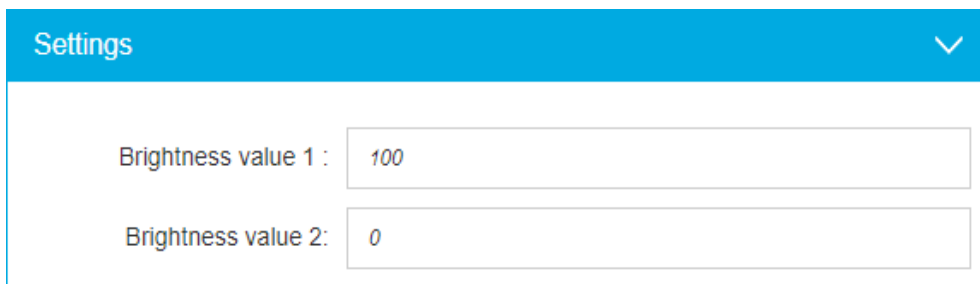


Figure 35: Signal-time diagram for **Dimming automatic control**

4.5.2 Dimming automatic control switch

With the **Dimming automatic control switch** function, the lighting circuits/lighting is/are switched on at a previously set value, dimming value 1, during motion detection (Figure 36). Once the delay time set in the device has elapsed, a switch is made to the second value, dimming value 2. The values to be set, dimming values 1/2, can be between 0 % (lighting OFF) ... 100 % (lighting ON). The lighting remains switched on until an OFF signal is issued by a push-button, for example.

-  The time setting on the device itself is not evaluated.
-  The set timer duration in the dimming output is not evaluated either.



Settings ▼

Brightness value 1 :

Brightness value 2 :

Figure 36: Dimming value setting 1/2 - **Dimming automatic control switch**




Inputs			Outputs	
	TXD50X - 1 -1 <i>House</i>			TXA661A - 1 -1 <i>House - lighting</i>

Figure 37: Linking **Dimming automatic control switch** function

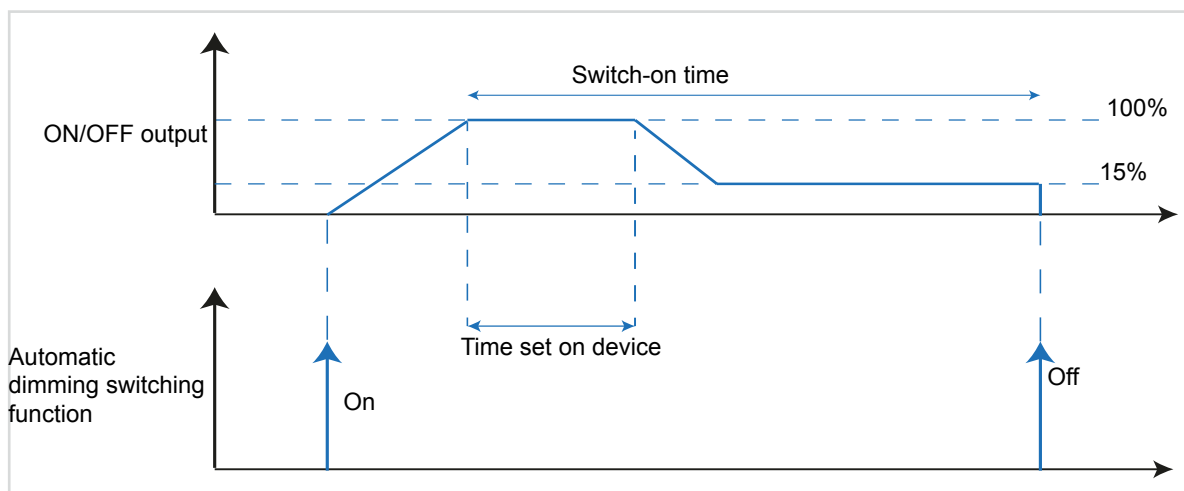




Figure 38: Signal-time diagram for **Dimming automatic control switch**

4.5.3 Scene function

The precise description of the **Scene** function can be found in Chapter „4.4.6 Scene function “.

4.5.4 Scene switch function

The precise description of the **Scene switch** function can be found in Chapter „4.4.7 Scene switch “.

4.5.5 Overview of all possible linking combinations

The following overview shows all linking combination possibilities for the **Dimming** function. It is worth noting that inputs can also be linked with inputs (depending on the function selection).

		Linking		
Input			Output	
	TXD50X - 1 -1 House			ON/OFF output
				Dimming output
	TXD50X - 1 -1 House			ON/OFF output
				Dimming output
	TXD50X - 1 -1 House			ON/OFF output
				Dimming output
	TXD50X - 1 -1 House			ON/OFF output
				Dimming output

Figure 39: Combination possibilities **Dimming** input – output

4.6 Roller shutter functions

The **Roller shutter** function for the detection channels is configured in the parameter windows below.

This function is used for activating roller shutters, blinds, awnings and other hangings.

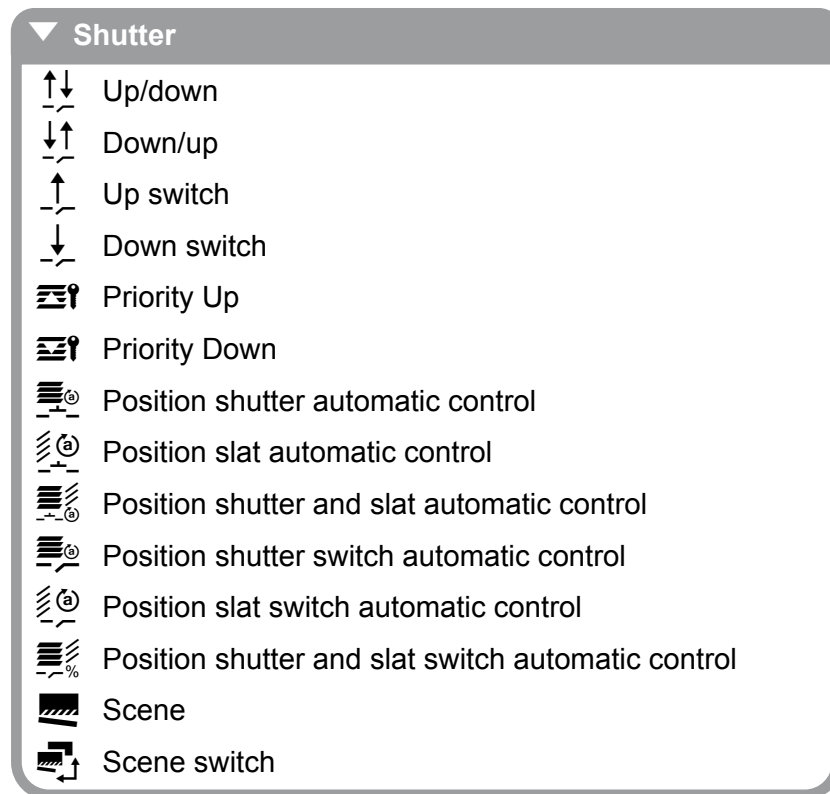



Figure 40: Functional overview **Roller shutter**

 For information on determining the operation time and the slat step time, see the operating instructions for the relevant switch actuator/blind actuator or roller shutter and blind actuator.

4.6.1 Basis roller shutter/blind control

In the case of roller shutter/blind drives with limit switches, the roller shutter/blind can be brought into the correct position by specifying a percentage value. The following settings are to be respected:

For blind drives, a distinction is also made between slats arranged horizontally and vertically.

Slat adjustment for slats arranged horizontally

The top final position of the roller shutters/blinds is set using the value 0 % and returned as a status value.



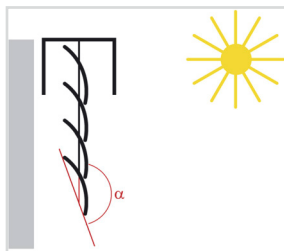
- Function position in %
- Sun protection completely open
 - Top final position reached: 0 %

Figure 41: Blind position top final position 0 %

The bottom final position of the roller shutters/blinds is set using the value 100 % and returned as a status value.

If a blind drive is moved from the top final position into the bottom final position, then the slats will initially tilt into a nearly vertical position and the blind will move with closed slats until it reaches the bottom final position.

If a blind is in the bottom final position and the slats are fully closed, then this slat position is identified as vertical and 100 %. However, the fully closed slats cannot be exactly vertical ($\alpha = 180^\circ$); instead, they are at a slight angle from the vertical.

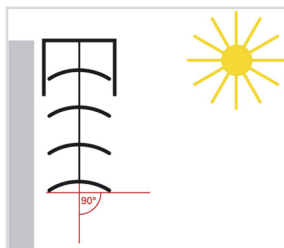


Function position in %

- Sun protection completely closed
- Top final position reached: 100 %

Figure 42: Blind position bottom final position

If the blind is set into motion from the vertical position (bottom end position, 100 % fully closed), the slats move into the horizontal position ($\alpha = 90^\circ$). With the Slat adjustment function, it is possible to determine the number of steps so that the slats can be adjusted almost infinitely.

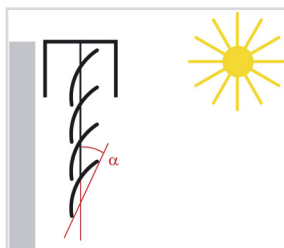


Slat angle in %

- Slat position horizontal ($\alpha = 90^\circ$)

Figure 43: Adjust slat angle

With blinds, the position of the slats can be adjusted beyond the horizontal position until they have reached the maximum point to which they can be adjusted and the blind starts moving towards the top final position. The slat angle can therefore adopt a value between 0 and 90° annehmen.



Slat angle in %

- Slat position at the start of the movement towards the top final position

Figure 44: Slat angle at the start of the movement towards the top final position

Slat adjustment for slats arranged vertically

When there is shade or screen with slats arranged vertically, the shade behaves like slats arranged horizontally. As a result, when the slats are fully open, the value 0 % is transmitted and returned as a status value. The slats therefore form an angle of $\alpha = 90^\circ$ the fully open shade to the fully closed shade.

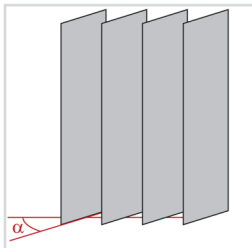


Slat angle in %

- Fully open slats arranged vertically $\alpha = 90^\circ$

Figure 45: Slat angle for slats arranged vertically $\alpha = 90^\circ$

Fully closed slats are operated with a value of 100 %, which is also returned as a status. The angle which the slats form with the direction of travel is approximately 0° .

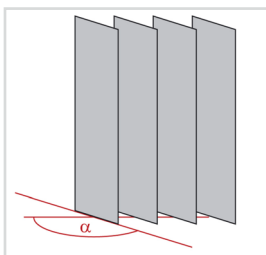


Slat angle in %

- Fully closed slats arranged vertically $\alpha \approx 0^\circ$

Figure 46: Slat angle for slats arranged vertically $\alpha \approx 0^\circ$

If the shade is open, the slats turn into a position at an angle a little less than 180° .



Slat angle in %

- Slats arranged vertically when opening $\alpha \approx 180^\circ$

Figure 47: Slat angle when opening $\alpha \approx 180^\circ$

4.6.2 Roller shutter up/down functions \updownarrow

With the **Roller shutter up/down** function, the roller shutter/blind output is switched on and moved into the top final position during motion detection. The operation time taken until the top final position is reached depends on the settings in the motion detector:

- The pulse encoder function is set on the device.
- A switching time is set on the device.

Pulse encoder function:

With the Pulse encoder function, the roller shutter/blind moves into the top final position during motion detection until the set running time has elapsed (ON/OFF output). Once the top final position is reached and the change-over time has elapsed, the roller shutter/blind moves into the bottom final position until the running time in the ON/OFF output has elapsed.

Switching time function:

With the Switching time function, the roller shutter/blind moves up during motion detection until the time set in the motion detector has elapsed. Once this time and the change-over time have elapsed, the roller shutter/blind moves into the bottom position until the running time set in the ON/OFF output has elapsed.




Inputs			Outputs	
	TXD50X - 1 -1 <i>House</i>			TXA610 - 1 -1 <i>House - roller shutter</i>

Figure 48: Linking **Blind up/down** function

- i** Further information on, for example, the operating mode or running time to the top/bottom final position can be found in the application description/operating instructions for the respective roller shutter/blind output.

4.6.3 Roller shutter down/up functions

With the **Roller shutter down/up** function, the roller shutter/blind output is switched on and moved into the bottom final position during motion detection. The operation time taken until the bottom final position is reached depends on the settings in the motion detector:

- The pulse encoder function is set on the device.
- A switching time is set on the device.

Pulse encoder function:

With the Pulse encoder function, the roller shutter/blind moves into the bottom final position during motion detection until the set running time has elapsed (ON/OFF output). Once the bottom final position is reached and the change-over time has elapsed, the roller shutter/blind moves into the top final position until the running time in the ON/OFF output has elapsed.

Switching time function:

With the Switching time function, the roller shutter/blind moves down during motion detection until the time set in the motion detector has elapsed. Once this time and the change-over time have elapsed, the roller shutter/blind moves into the top position until the running time set in the ON/OFF output has elapsed.




Inputs			Outputs	
	TXD50X - 1 -1 <i>House</i>			TXA610 - 1 -1 <i>House - roller shutter</i>

Figure 49: Linking **Blind up/down** function

- i** Further information, e.g. operating mode, running time to top/bottom final position, can be found in the application description for the respective roller shutter/blind output.

4.6.4 Switching up function

The **Switching up** function causes the roller shutter/blind to move into the top final position during motion detection until the running time set in the roller shutter/blind output has elapsed.




Inputs			Outputs	
	TXD50X - 1 -1 <i>House</i>			TXA610 - 1 -1 <i>House - roller shutter</i>

Figure 50: Linking **Blind up/down** function

4.6.5 Switching down function

The **Switching down** function causes the roller shutter/blind to move into the bottom final position during motion detection until the running time set in the roller shutter/blind output has elapsed.




Inputs			Outputs	
	TXD50X - 1 -1 <i>House</i>			TXA610 - 1 -1 <i>House - roller shutter</i>

Figure 51: Linking **Blind up/down** function

4.6.6 Priority Up - Priority Down

The Priority function forces the control of a shutter. This function the priority or priority cancellation controls to be issued. No other command is taken into account when the Priority is active. Only priority or alarm cancellation commands will be taken into account

- **Priority Up:** Allows forcing a rolling shutter or blind to raise.




Inputs			Outputs	
	TXD50X - 1 -1 <i>House</i>			TXA610 - 1 -1 <i>House - roller shutter</i>

Figure 52: Linking **Priority Up** function

Closing input contact: activation priority and delayed closing of the raise output contact.
Opening input contact: end of the priority.

- **Priority Down:** Allowing forcing a rolling shutter or blind to lower.




Inputs			Outputs	
	TXD50X - 1 -1 <i>House</i>			TXA610 - 1 -1 <i>House - roller shutter</i>

Figure 53: Linking **Priority Down** function

Closing input contact: activation of priority and delayed closing of the lowering output contact.
Opening input contact: end of the priority.

4.6.7 Position shutter automatic control

The **Position shutter automatic control** function moves the roller shutter into the set position during motion detection. The **Position 1** value in this case can be between 0 and 100 % (Figure 55).

- 0 %: top final position reached: 0 %, roller shutter/blind is open
- 100 %: bottom final position reached: 0 %, roller shutter/blind is closed




Inputs			Outputs	
	TXD50X - 1 -2 <i>House</i>			TXA610 - 1 -1 <i>House - roller shutter</i>

Figure 54: Linking **Position shutter automatic control** function

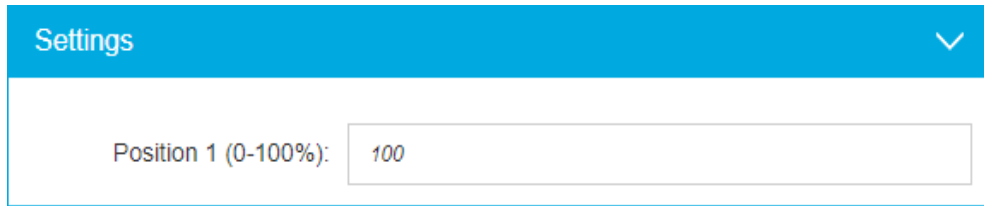


Figure 55: Entering the roller shutter position between 0 and 100 %

4.6.8 Position slat automatic control

During motion detection, the **slat position** rotates into the previously set position (Figure 57). The set value for **Slat angle 1** can be between 0 and 100 %.

- 0 %: slat fully opened, slat angle $\alpha = 90^\circ$
- 100 %: slat fully closed, slat angle $\alpha = 0^\circ$

Inputs			Outputs	
	TXD50X - 1 -1 <i>House</i>			TXA610 - 1 -1 <i>House - roller shutter</i>

Figure 56: Linking **Position slat automatic control** function



Figure 57: Entering the slat angle 0 - 100 %

4.6.9 Position shutter and slat automatic control

During motion detection, the **roller shutter and slat position** rotates into the previously set position (Figure 59). The set value for **Slat angle 1** and **Position 1** can be between 0 and 100 %.

The roller shutter position is moved into the applicable position first, and the slat/slat angle is then adjusted.

- 0 %: slat fully opened, slat angle $\alpha = 90^\circ$
- 100 %: slat fully closed, slat angle $\alpha = 0^\circ$

Inputs			Outputs	
	TXD50X - 1 -2 <i>House</i>			TXA610 - 1 -1 <i>House - roller shutter</i>

Figure 58: Linking **Position shutter and slat automatic control** function

Settings
▼

Position 1 (0-100%):

Slat angle 1 (0-100%):

Figure 59: Entering the position/slat angle 0 - 100 %

4.6.10 Position shutter switch automatic control

During motion detection, the **Position shutter switch automatic control** function causes the roller shutter to move into the set **Position 1** (Figure 61). The delay time in the motion detector starts. Once the delay time has elapsed, **Position 2** (Figure 61) is approached and the roller shutter stops.

Inputs			Outputs	
	TXD50X - 1 -1 <i>House</i>			TXA610 - 1 -1 <i>House - roller shutter</i>

Figure 60: Linking **Position shutter switch automatic control** function

Settings
▼

Position 1 (0-100%):

Position 2 (0-100%):

Figure 61: Entering **Position 1** and **Position 2**

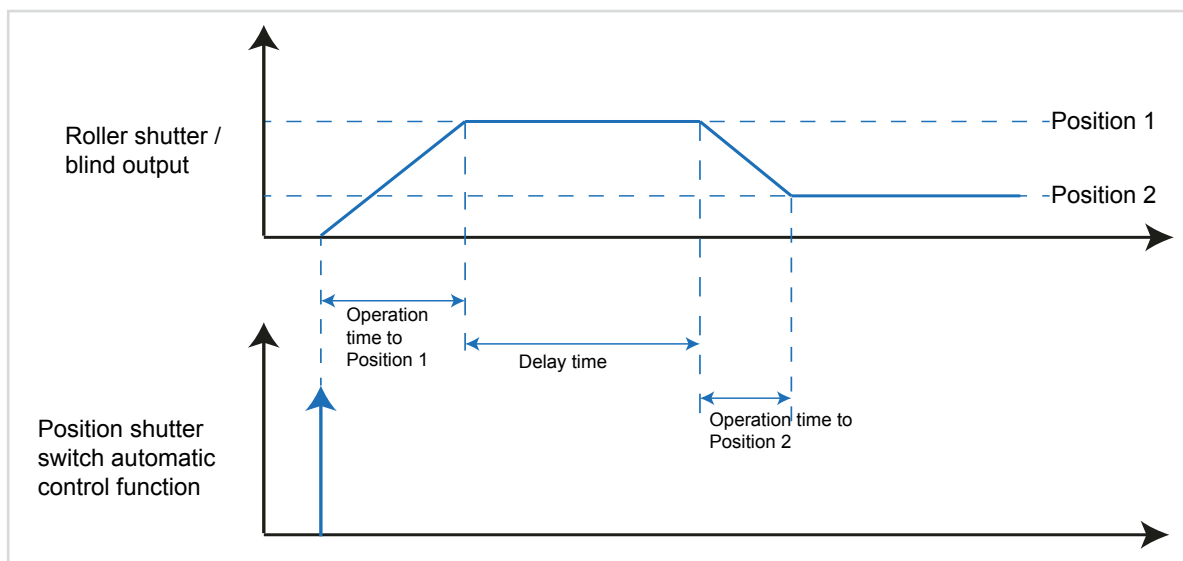


Figure 62: Signal-time diagram for **Automatic roller shutter position**

4.6.11 Position slat switch automatic control

During motion detection, the **Position slat switch automatic control** function causes the slat angle to change to the **Slat angle 1** position (Figure 64). The delay time in the motion detector starts. Once the set delay time has elapsed, **Slat angle 2** (Figure 64) is set.

Inputs			Outputs	
	TXD50X - 1 -2 House			TXA610 - 1 -1 House - roller shutter

Figure 63: Linking **Position slat switch automatic control** function

Settings
▼

Slat angle 1 (0-100%):

Slat angle 2 (0-100%):

Figure 64: Entering **Slat angle 1** and **Slat angle 2**

4.6.12 Position shutter and slat switch automatic control

With this function, the roller shutter/blind is moved into **Position 1/Slat angle 1** during motion detection. Once the delay time has elapsed, the roller shutter/blind moves into **Position 2/Slat angle 2**. The values for **Position X** and **Slat angle X** are between 0 and 100 % (Figure 66).

Inputs			Outputs	
	TXD50X - 1 -1 House			TXA610 - 1 -1 House - roller shutter

Figure 65: Linking **Position shutter and slat switch automatic control** function

Settings
▼

Position 1 (0-100%):

Position 2 (0-100%):

Slat angle 1 (0-100%):

Slat angle 2 (0-100%):

Figure 66: Entering **Position 1 and 2** and **Slat angle 1 and 2**

Further information, e.g. operating mode, running time to top/bottom final position, can be found in the settings for the respective roller shutter/blind output.

4.6.13 Scene function

The precise description of the **Scene** function can be found in Chapter „4.4.6 Scene function “.

4.6.14 Scene switch function

The precise description of the **Scene switch** function can be found in Chapter „4.4.7 Scene switch “.

4.6.15 Overview of all possible linking combinations

The following overview shows all linking combination possibilities for the **Roller shutter** function.

Linking				
Input			Output	
	TXD50X - 1 -1 House			Output roller shutter/blind
	TXD50X - 1 -1 House			Output roller shutter/blind
	TXD50X - 1 -1 House			Output roller shutter/blind
	TXD50X - 1 -1 House			Output roller shutter/blind
	TXD50X - 1 -1 House			Output roller shutter/blind
	TXD50X - 1 -1 House			Output roller shutter/blind
	TXD50X - 1 -1 House			Output roller shutter/blind
	TXD50X - 1 -1 House			Output roller shutter/blind
	TXD50X - 1 -1 House			Output roller shutter/blind
	TXD50X - 1 -1 House			Output roller shutter/blind
	TXD50X - 1 -1 House			Output roller shutter/blind
	TXD50X - 1 -1 House			Output roller shutter/blind
	TXD50X - 1 -1 House			Output roller shutter/blind
	TXD50X - 1 -1 House			Output roller shutter/blind
	TXD50X - 1 -1 House			Output roller shutter/blind

Figure 67: Combination possibilities **Roller shutter** input – output

4.7 Heating/cooling functions

The **Heating/cooling** function allows an external KNX room thermostat to be activated during motion detection.

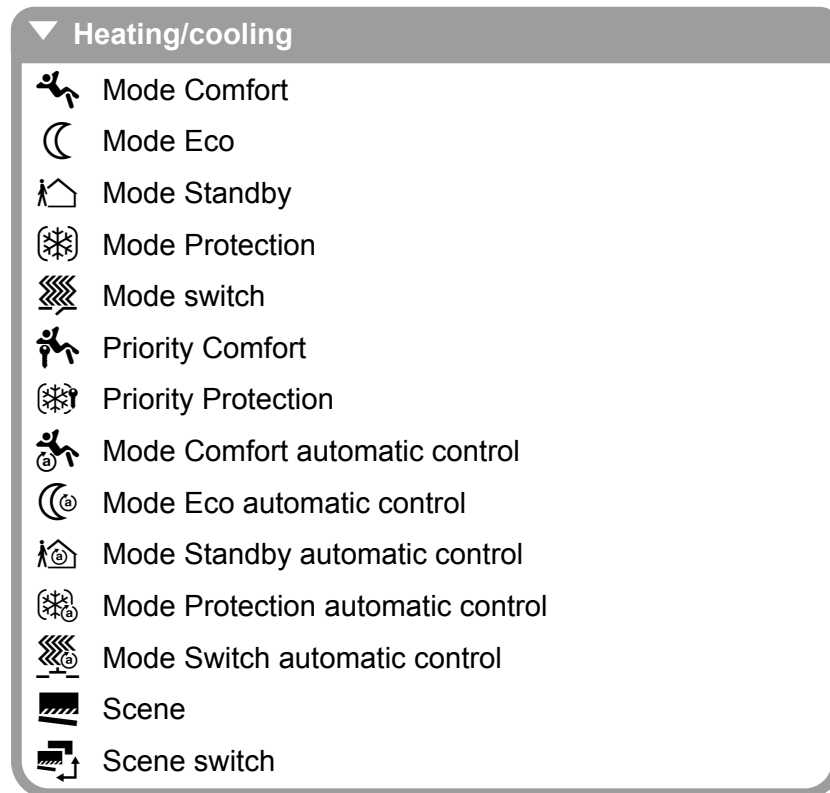





Figure 68: Functional overview **Heating/cooling**


With the Comfort, Eco, Standby and Protection mode functions, the corresponding operating modes can be switched on in the associated thermostats during motion detection or changed and transmitted to the bus.

Example:


- Comfort 

The **Comfort** operating mode sets the room temperature to a temperature value predefined in the thermostat (e.g. comfort temperature 21°C) for comfort (presence).
- Standby 

The **Standby** operating mode reduces the room temperature after leaving the room (brief absence) to a value predefined in the thermostat (19°C, for example).
- Eco 

The **Eco** operating mode turns down the room temperature during holiday time (during long absence) to a value of 17°C defined in the thermostat.
- Frost protection 

The **Protection** operating mode reduces the heating circuit temperature to a minimum temperature of 7°C defined in the controller to protect against frost damage over night or during periods of extended absence.

 With underfloor heating, the change-over from "Comfort" to Standby is only noticeable after a certain period of time due to the sluggishness of the underfloor heating system.

4.7.1 Setpoint selection

The heating command operates according to a heating instruction.

- **Mode Comfort** : Activates Comfort mode for the heating..

Inputs			Outputs	
	TXD50X - 1 -2 <i>House</i>			WUT09 - 1 - 1 <i>House - Heating/cooling</i>

Figure 69: Linking **Mode Comfort** function

Closing the input contact activates Comfort mode.

The effect of the command is cancelled by any other mode activation command

- **Mode Eco** : Activates Eco mode for the heating.

Inputs			Outputs	
	TXD50X - 1 -2 <i>House</i>			WUT09 - 1 - 1 <i>House - Heating/cooling</i>

Figure 70: Linking **Mode Eco** function

Closing the input contact activates Eco mode.

The effect of the command is cancelled by any other mode activation command.

- **Mode Standby** : Activates StandBy mode for the heating.

Inputs			Outputs	
	TXD50X - 1 -2 <i>House</i>			WUT09 - 1 - 1 <i>House - Heating/cooling</i>

Figure 71: Linking **Mode Standby** function

Closing the input contact activates StandBy mode.

The effect of the command is cancelled by any other mode activation command

- **Mode Protection** : Activates Protection mode for the heating.

Inputs			Outputs	
	TXD50X - 1 -2 <i>House</i>			WUT09 - 1 - 1 <i>House - Heating/cooling</i>

Figure 72: Linking **Mode Protection** function

Closing the input contact activates Protection mode.

The effect of the command is cancelled by any other mode activation command.

- **Mode switch** : Switches between 2 heating modes.

Inputs			Outputs	
	TXD50X - 1 -2 <i>House</i>			WUT09 - 1 - 1 <i>House - Heating/cooling</i>

Figure 73: Linking **Mode switch** function

Closing the input contact activates Function 1 HVAC.

Opening the input contact activates Function 2 HVAC.

The effect of the command is cancelled by any other mode activation command.

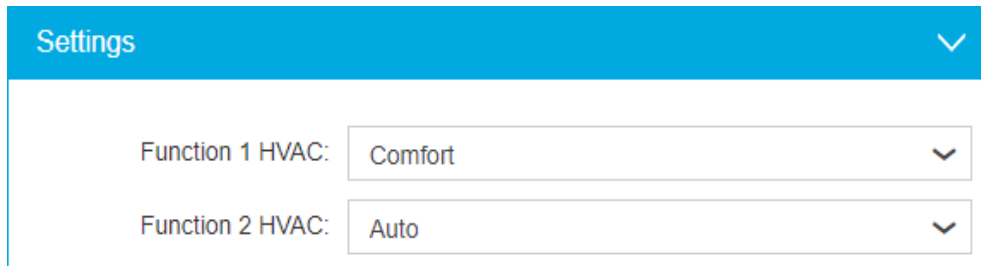


Figure 74: Entering **Function 1 HVAC** and **Function 2 HVAC**

Heating mode available: **Auto**, **Comfort**, **Standby**, **Night setpoint** and **Freeze protection**.

4.7.2 Priority Comfort - Priority Protection

The Priority function forces a heating mode. This function the priority or priority cancellation controls to be issued. No other command is taken into account when the Priority is active. Only priority or alarm cancellation commands will be taken into account

- **Priority Comfort:** Activates and maintains Comfort mode.

Inputs			Outputs	
	TXD50X - 1 - 1 House			WUT09 - 1 - 1 House - Heating/cooling

Figure 75: Linking **Priority Up** function

Closing the contact activates and maintains Comfort mode.

Opening the contact cancels the priority and returns to the usually active mode.

- **Priority Protection:** Activates and maintains Protection mode.

Inputs			Outputs	
	TXD50X - 1 - 1 House			WUT09 - 1 - 1 House - Heating/cooling

Figure 76: Linking **Priority Down** function

Closing the contact activates and maintains Protection mode.

Opening the contact cancels the priority and returns to the usually active mode.

4.7.3 Mode Comfort automatic control function

During motion detection, the device switches the operating mode set in the room thermostat to Comfort mode. The Comfort mode parameters set in the room thermostat are switched on (comfort temperature 21°C, for example).

Inputs			Outputs	
	TXD50X - 1 - 2 House			WUT09 - 1 - 1 House - Heating/cooling

Figure 77: Linking **Comfort mode** function

4.7.4 Mode Standby automatic control function

During motion detection, the device switches the operating mode set in the room thermostat to Standby mode. The Standby mode parameters set in the room thermostat are switched on (19°C, for example).

Inputs			Outputs	
	TXD50X - 1 -2 <i>House</i>			WUT09 - 1 - 1 <i>House - Heating/cooling</i>

Figure 78: Linking **Standby mode** function

4.7.5 Mode Eco automatic control function

During motion detection, the device switches the operating mode set in the room thermostat to Eco mode. The Eco mode parameters set in the room thermostat are switched on (17°C, for example).

Inputs			Outputs	
	TXD50X - 1 -2 <i>House</i>			WUT09 - 1 - 1 <i>House - Heating/cooling</i>

Figure 79: Linking **Eco mode** function

4.7.6 Mode Protection automatic control function

During motion detection, the device switches the operating mode set in the room thermostat to Protection mode. The Protection mode parameters set in the room thermostat are switched on (7°C, for example).

Inputs			Outputs	
	TXD50X - 1 -2 <i>House</i>			WUT09 - 1 - 1 <i>House - Heating/cooling</i>

Figure 80: Linking **Protection mode** function

4.7.7 Mode Switch automatic control function

With the **Mode Switch automatic control** function, the operating mode for the **Function 1 HVAC** value is switched on first during motion detection; once the delay time set in the PIR has elapsed, a switch is then made to the second operating mode for the **Function 2 HVAC** value.

Inputs			Outputs	
	TXD50X - 1 -2 <i>House</i>			WUT09 - 1 - 1 <i>House - Heating/cooling</i>

Figure 81: Linking **Setpoint offset** function




Figure 82: **Setpoint offset** settings


Parameters	Description	Value
Function 1 HVAC	This parameter is used to set the operating mode for the Function 1 HVAC value.	Auto Comfort * Standby Night setpoint Frost protection
Function 2 HVAC	This parameter is used to set the operating mode for the Function 2 HVAC value.	Auto * Comfort Standby Night setpoint Frost protection

Figure 83: **Mode Switch automatic control** parameters

4.7.8 Scene function

The precise description of the **Scene** function can be found in Chapter „4.4.6 Scene function “.

4.7.9 Scene switch function

The precise description of the **Scene switch** function can be found in Chapter „4.4.7 Scene switch “.

4.7.10 Overview of all possible linking combinations

The following overview shows all linking combination possibilities for the **Heating/cooling** function.

Input ↗		Linking		Input ↗
	Mode Comfort			WUT09 - 1 -1 House
	Mode Eco			
	Mode Standby			
	Mode Protection			
	Mode switch			
	Priority Comfort			
	Priority Protection			
	Mode Comfort automatic control			
	Mode Eco automatic control			
	Mode Standby automatic control			
	Mode Protection automatic control			
	Mode Switch automatic control			
	Scene			
	Scene switch			

Figure 84: Linking input – input **Heating/cooling**

5. Master-slave application

The master-slave application requires one master device and at least one slave device to be installed in the system. Any number of slave devices can be connected to a master device. Only the master device sends switching, dimming value, blind, light scene, and heating/cooling telegrams, and controls the load.

The devices communicate with one another by means of the function. If the main unit directly detects a motion, it sends the parameterised telegram when detection begins and sends a motion telegram to the bus in order to inform the slave device about the motion. The master device takes into account the locally set dusk level.

If the slave device detects a motion, it sends a value = 1 to the master device cyclically for the duration of the motion, taking into account the dusk level set locally on the slave device. In turn, the master device cyclically checks whether motion messages have been received.

Two different cases may apply:

- The dusk level is evaluated in the master device and the slave device
If the master device receives a motion telegram from the slave, the master starts motion evaluation and transfers the telegram when detection begins, regardless of the dusk level set in the master device.
- The dusk level is only evaluated in the master device
If the master device receives a motion telegram from the slave, the master starts by checking the dusk level set in it. Once the ambient brightness drops below the value set in the master device, the master device starts motion evaluation and sends the telegram when detection begins.

If the master itself no longer detects any motions or no longer receives any motion telegrams from the slave, the master ends motion evaluation and issues the telegram when detection ends.

- Master-Slave

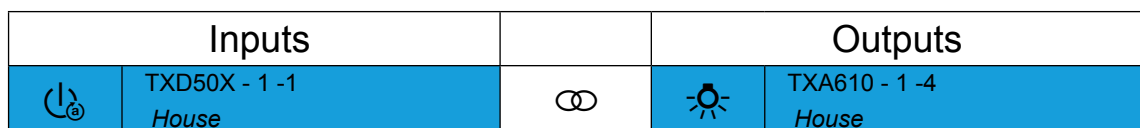


Figure 85: **Master-actuator output** linking

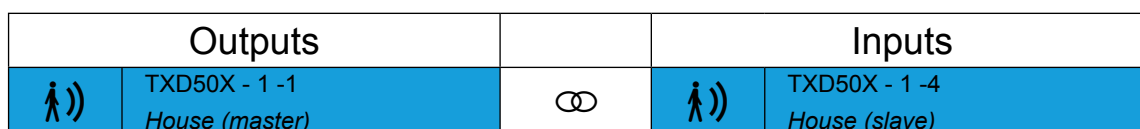


Figure 86: Linking **Master-slave** function

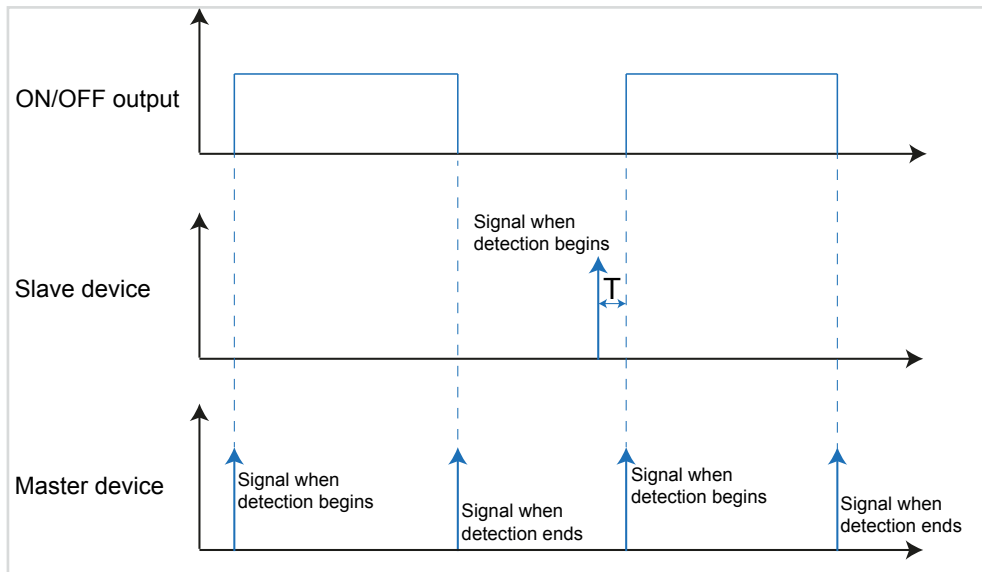


Figure 87: Signal-time diagram for master-slave application

T : Delay time between detecting a motion on the slave device and processing the signal in the master device and forwarding to the actuator output.

- i** The signal-time diagram shown here represents an example of a master-slave application. The brightness is below the set brightness value.

6. Appendix

6.1 Technical data TXD501

KNX medium	TP 1
Configuration mode	S-Mode, E-Controller
Rated voltage KNX	30 V SELV
Current consumption KNX	max. 10 mA
Connection mode KNX	bus connection terminal
Response brightness	approx. 5 ... 2000 lux
Delay time	5 s ... 60 min
Detection angle	360°
Recommended installation height	2,5 m ... 3,5 m
Maximum installation height	4 m
Detection area Ø motion (installation height 2.5 m)	
- transverse motion towards detector	~ 10 m
- approach detector	~ 5 m
Detection area Ø presence (Installation height 2.5 m)	~ 5 m
Degree of protection	IP 41
Ambient temperature	-5 ... +45 °C
Storage/transport temperature	-20 ... +70 °C
Protection class	II
Impact resistance	IK 04
Operating altitude	< 2000 m
Dimensions TXD501 (Ø x H)	62 x 86.2 mm

6.2 Technical data TXD503 – TXC513

KNX medium	TP 1
Configuration mode	S-Mode, E-Controller
Rated voltage KNX	30 V SELV
Current consumption KNX	max. 10 mA
Connection mode KNX	bus connection terminal
Response brightness	approx. 5 ... 2000 lux
Delay time	5 s ... 60 min
Detection angle	360°
Recommended installation height	2,5 m ... 3,5 m
Maximum installation height	4 m
Detection area Ø motion (installation height 2.5 m)	
- transverse motion towards detector	~ 20 m
- Towards detector	~ 10 m
Detection area Ø presence (Installation height 2.5 m)	~ 10 m
Degree of protection	IP 41
Ambient temperature	-5 ... +45 °C
Storage/transport temperature	-20 ... +70 °C
Protection class	II
Impact resistance	IK 04
Operating altitude	< 2000 m
Dimensions TXD503 (Ø x H)	85 x 75.8 mm
Dimensions TXD513 (Ø x H)	105 x 61.3 mm

6.3 Technical data TXD505 – TXC515

KNX medium	TP 1
Configuration mode	S-Mode, E-Controller
Rated voltage KNX	30 V SELV
Current consumption KNX	max. 10 mA
Connection mode KNX	bus connection terminal
Response brightness	approx. 5 ... 2000 lux
Delay time	5 s ... 60 min
Detection angle	360°
Recommended installation height	2,5 m ... 3,5 m
Maximum installation height	4 m
Detection area Ø motion (installation height 3 m)	
– transverse motion towards detector	~ 30 x 5 m
– Towards detector	~ 14 x 5 m
Detection area Ø presence (Installation height 2.5 m)	~ 10 m
Degree of protection	IP 41
Ambient temperature	-5 ... +45 °C
Storage/transport temperature	-20 ... +70 °C
Protection class	II
Impact resistance	IK 04
Operating altitude	< 2000 m
Dimensions TXD505 (Ø x H)	85 x 75.8 mm
Dimensions TXD515 (Ø x H)	105 x 61.3 mm

6.4 Technical data TXC518

KNX medium	TP 1
Configuration mode	S-Mode, E-Controller
Rated voltage KNX	30 V SELV
Current consumption KNX	max. 10 mA
Connection mode KNX	bus connection terminal
Response brightness	approx. 5 ... 2000 lux
Delay time	5 s ... 60 min
Detection angle	360°
Recommended installation height	6 m ... 9 m
Maximum installation height	10 m
Detection area Ø motion (installation height 8 m)	
– transverse motion towards detector	~ 22 x 12 m
– Towards detector	~ 14 x 8 m
Degree of protection	IP 41
Ambient temperature	-5 ... +45 °C
Storage/transport temperature	-20 ... +70 °C
Protection class	II
Impact resistance	IK 04
Operating altitude	< 2000 m
Dimensions TXD513 (Ø x H)	105 x 66.2 mm

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