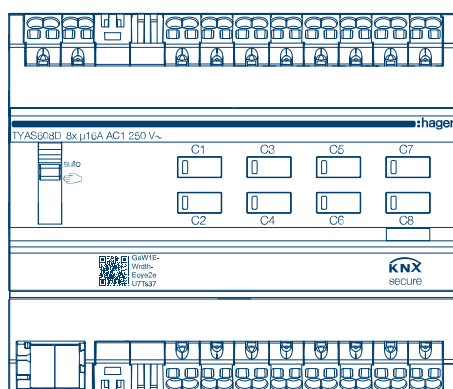


KNX Building system technology Switching / blind actuator




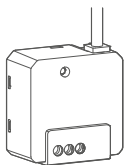



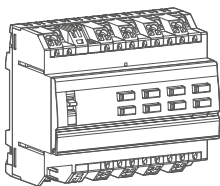



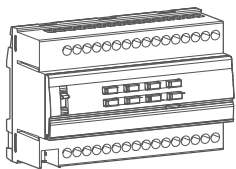



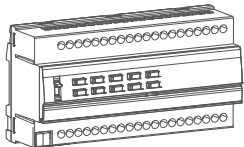



Switching actuator/blind actuator x-gang
KNX Secure, 16 A, C load

TYBS602F/TYAS608D/TYMS616D/TYMS620D



:hager

Product overview

	Reference no.	Product designation	Application software ref.	TP device Radio device	
	TYBS602F	Switching actuator/blind actuator 2-gang KNX Secure, 16 A, C load			
	TYAS608D	Switching actuator/blind actuator 8-gang KNX Secure, 16 A, C load			
	TYMS616D	Switching actuator/blind actuator 16-gang KNX Secure, 16 A, C load			
	TYMS620D	Switching actuator/blind actuator 20-gang KNX Secure, 16 A, C load			

Subject to technical changes!

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1. General

1.1 About this guide

The purpose of this manual is to describe the operation and configuration of the KNX-devices using the Easy tool program.

It consists of 3 parts:

- General information.
- The Easy tool configurations are available.
- Technical characteristics.

1.2 Easy tool software appearance

This product can also be configured using the configuration tool.

Compatible software version: V 7.0.9 or higher

Kompatible Server :

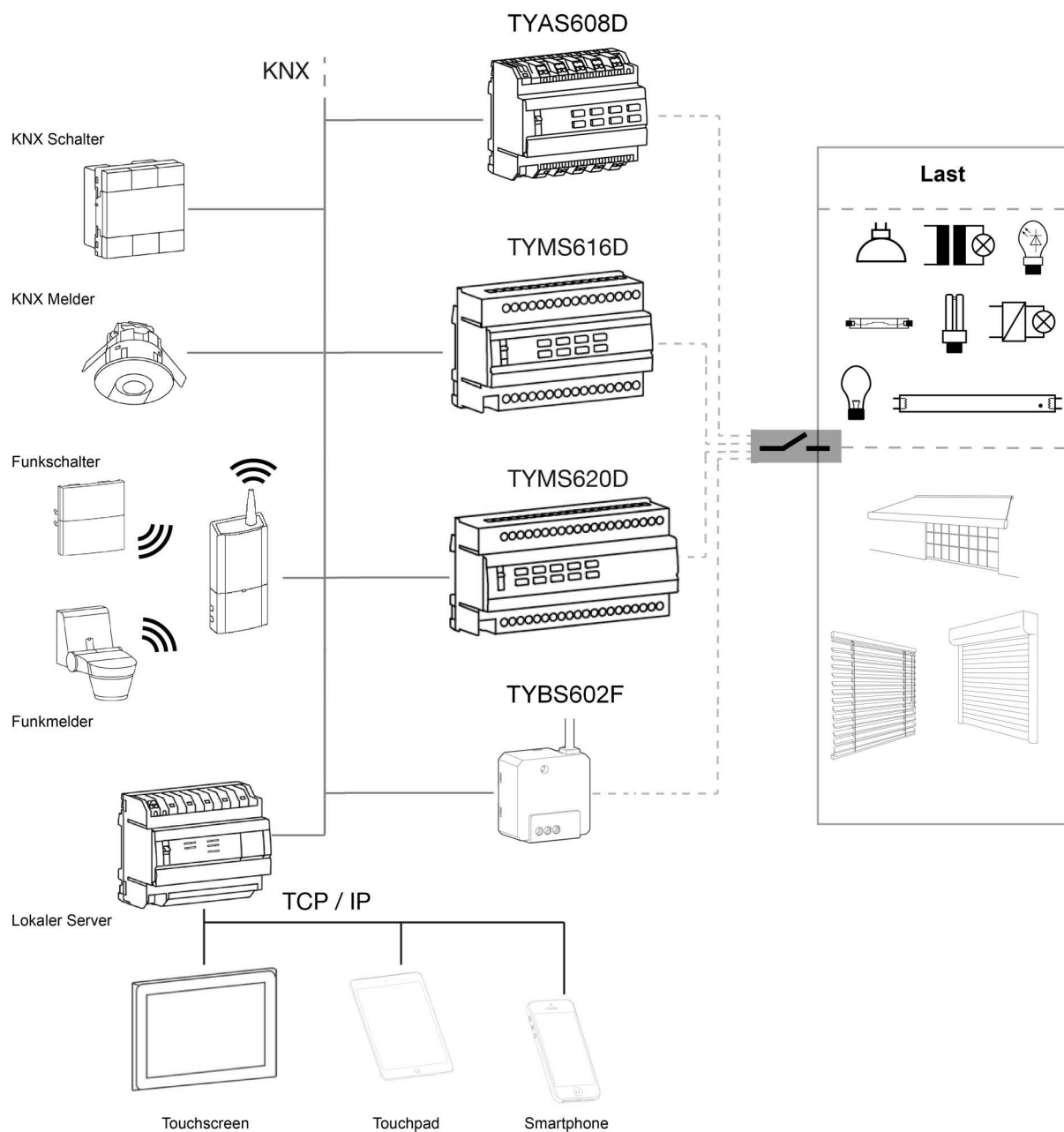
- TJA470: Domovea expert
- TJA670: Domovea basic
- TJA665: Konfigurationsserver KNX easy

It is essential to update the configuration server software version. (Please refer to the user manual).

2. General Description

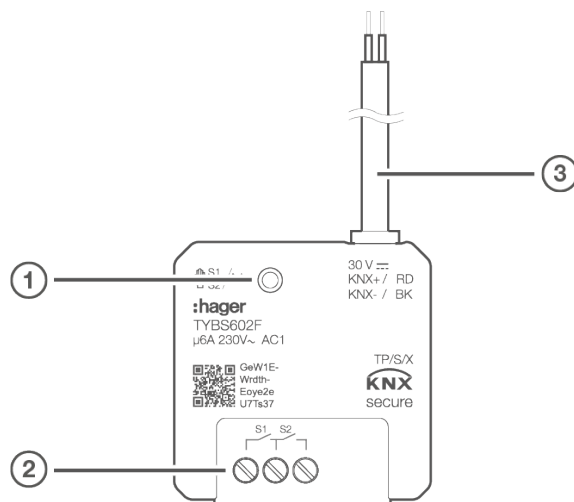
2.1 Installation of the device

2.1.1 Overview presentation



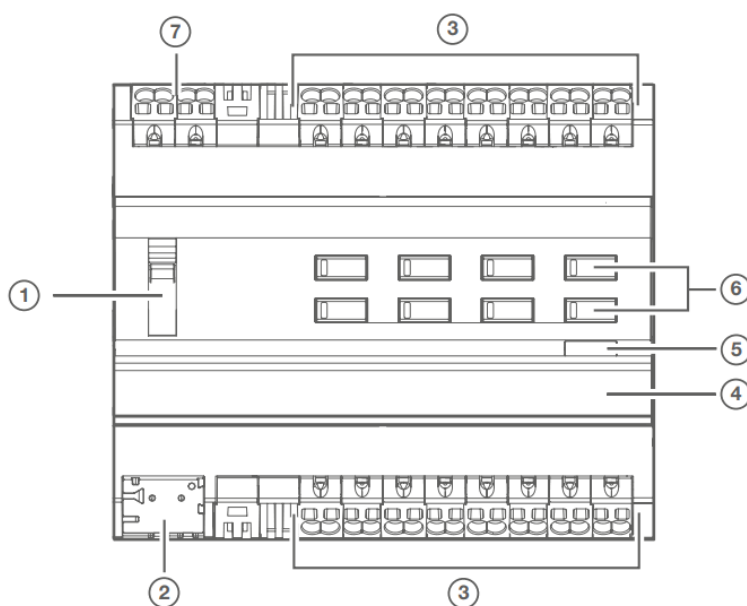
2.1.2 Description of the device


- TYBS602F



- (1) Illuminated button Manual mode/programming button
- (2) Load connection
- (3) KNX bus connection cable

- TYAS608D



- (1) Slide switch **auto** / 
- (2) KNX bus connection terminal
- (3) Connections of loads
- (4) Labelling field
- (5) Illuminated programming button
- (6) Operation button for manual mode for each output with status LED
- (7) Connection, 230 V ~ power supply

2.1.3 Physical addressing

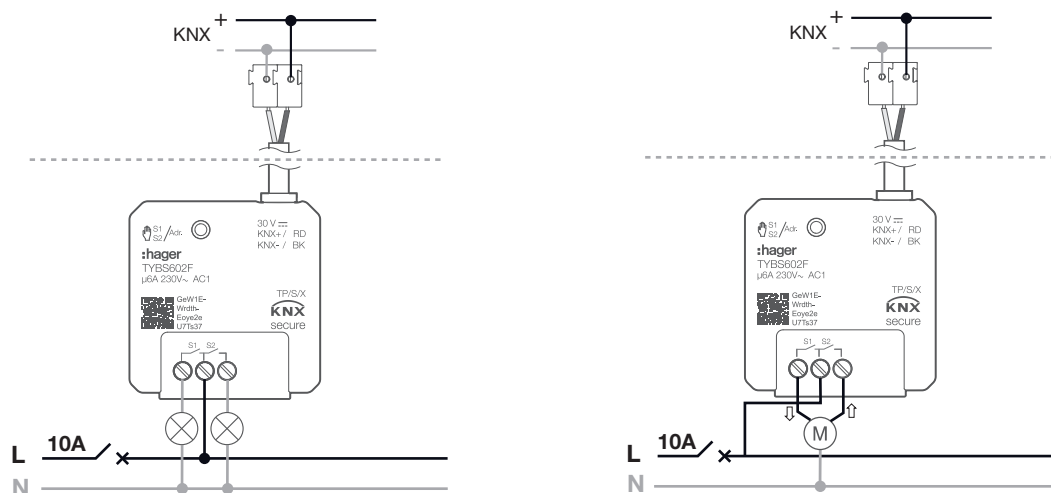
In order to perform the physical addressing or to check whether or not the bus is connected, press the lighted push button (5) on the right-hand side above the identification plates on the front of the device.

Light on = bus connected and ready for physical addressing.

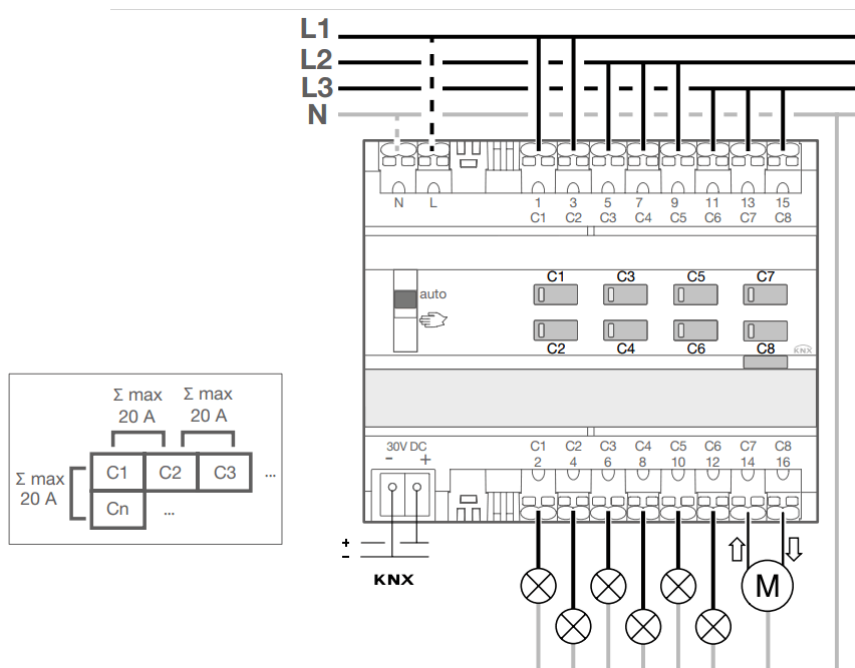
Programming mode is activated, until the physical address is transferred from ETS. Pressing the button again, exits programming mode. Physical addressing can be carried out in automatic or manual mode.

2.1.4 Connection

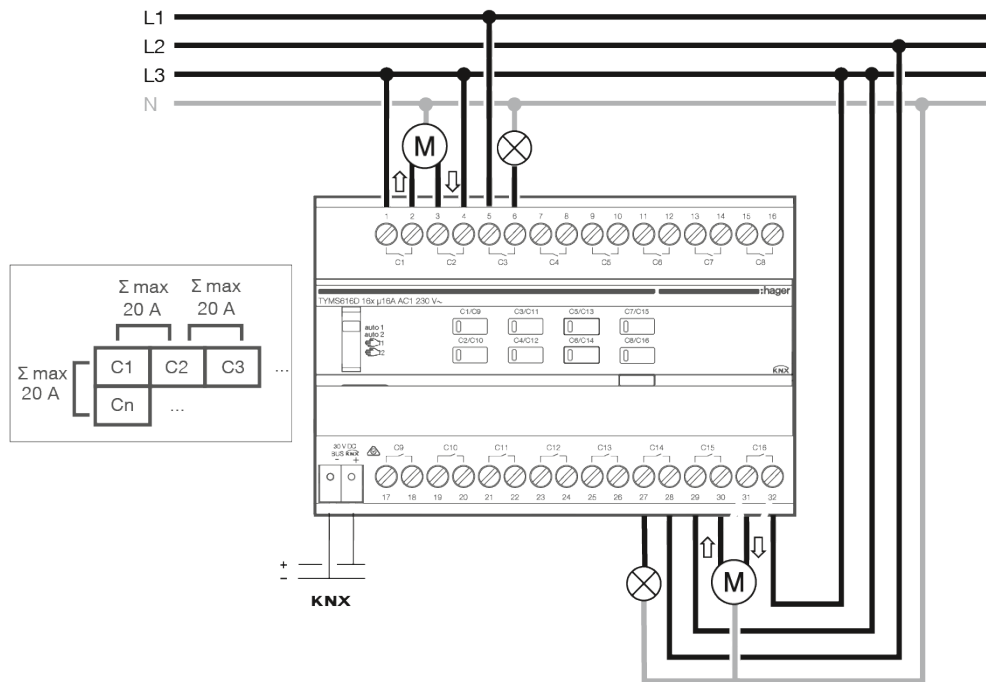
- TYBS602F



- TYAS608D



- TYMS616D / TYMS620D



2.2 Function modules of the application

The switch actuators of the devices can be used in 2 different modes.

ON/OFF

- Each switching contact is used separately to switch a load.

Shutter/blind

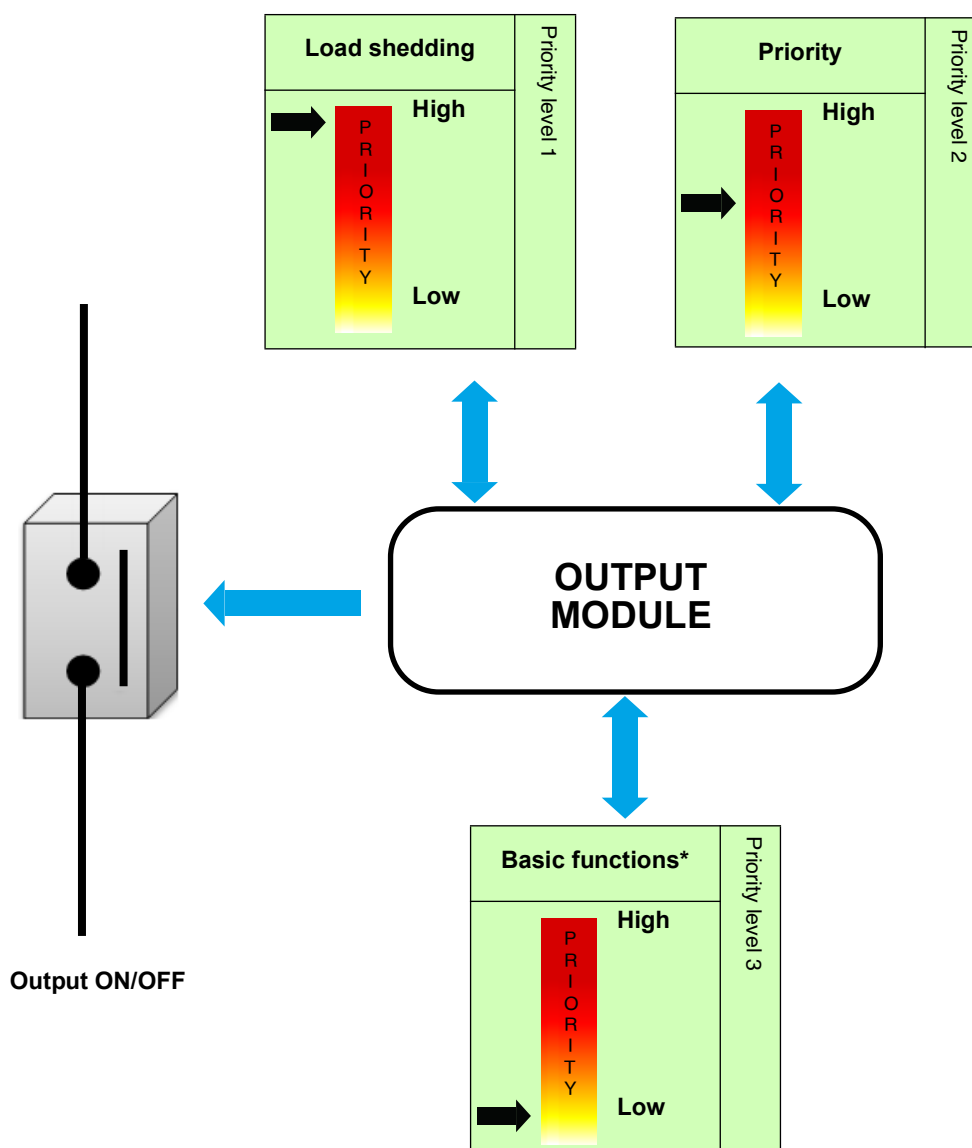
- Each pair of outputs constitutes a shutter and blind channel.

A mix of the two operating modes is possible.



Warning: The devices are delivered in ON/OFF operating mode. When connecting shutters or blinds, ensure that both contacts are not turned on at the same time!

2.2.1 ON/OFF



* ON/OFF - Timer - Scene: The last command received will have priority.

The applications allow individual configuration of the device outputs. The most important functions are:

■ ON/OFF

An output can be switched on or off using the ON/OFF function. The command can come from switches, buttons or other control inputs.

■ Central ON/OFF switch

An output can be switched on or off using the ON/OFF function. The command can come from switches, buttons or other control inputs. Unlike the ON/OFF function, it does not send the status indication of the controlled outputs. This prevents KNX bus saturation when switching outputs simultaneously.

■ Timer

The Timer function is used to switch an output on for a programmable period. A programmable Cut-OFF pre-warning announces the end of the delay time by a 1-second inversion of the output status. The timer duration can be modified via the bus KNX.

■ Priority

The Priority function is used to force the output into a defined state. The Priority function is controlled with a 2-bit command. Priority: Load shedding > **Priority** > Basic function. Application: Keeping lighting on for security reasons.

■ Automatic control

The Automatic control function is used to command an output in parallel to the ON/OFF function. The two functions have the same level of priority. The last command received will act on the status of the output. An additional command object is used to activate or deactivate the Automatic control.

■ Load shedding

The Load shedding function is used to force an output to OFF. Load shedding is activated by receipt of a 1-byte command. Priority: **Load shedding** > Priority > Basic function.

This command has the highest priority. No other command is taken into account if the mode is active. The status of the output is memorised but not applied. At the end of load shedding, the output is switched to the theoretical status without Load shedding (memorisation).

■ Scene

The Scene function is used to switch groups of outputs into a configurable predefined state. Pressing a push button activates a scene.

A scene is activated by receipt of a 1-byte command. Each output can be included in 64 different scenes.

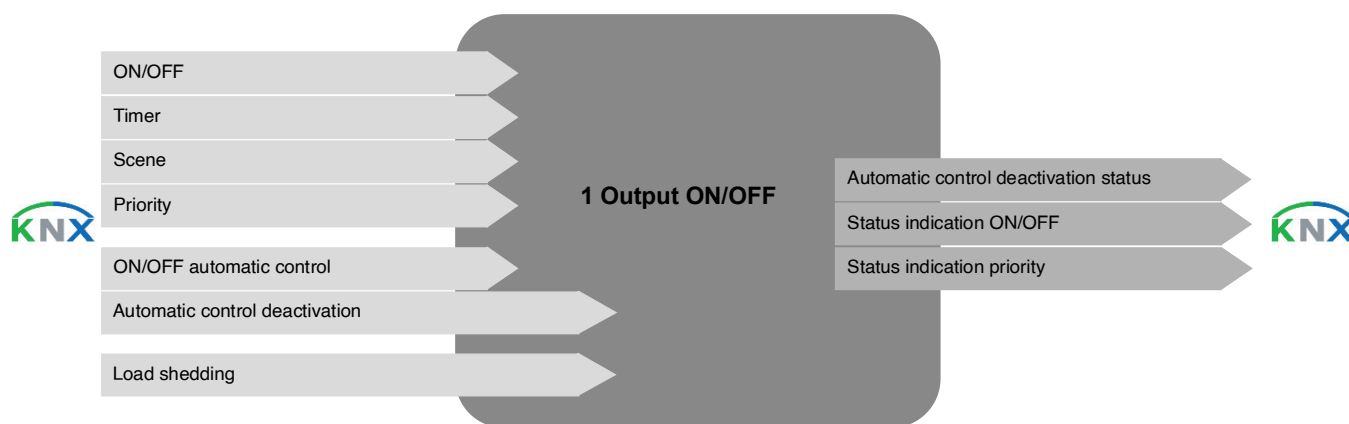
■ Manual mode

Manual mode allows the device to be disconnected from the bus. In this mode, each output can be priority controlled locally. Note: Manual mode is not available with the 2 ON/OFF outputs module (TYBS602F).

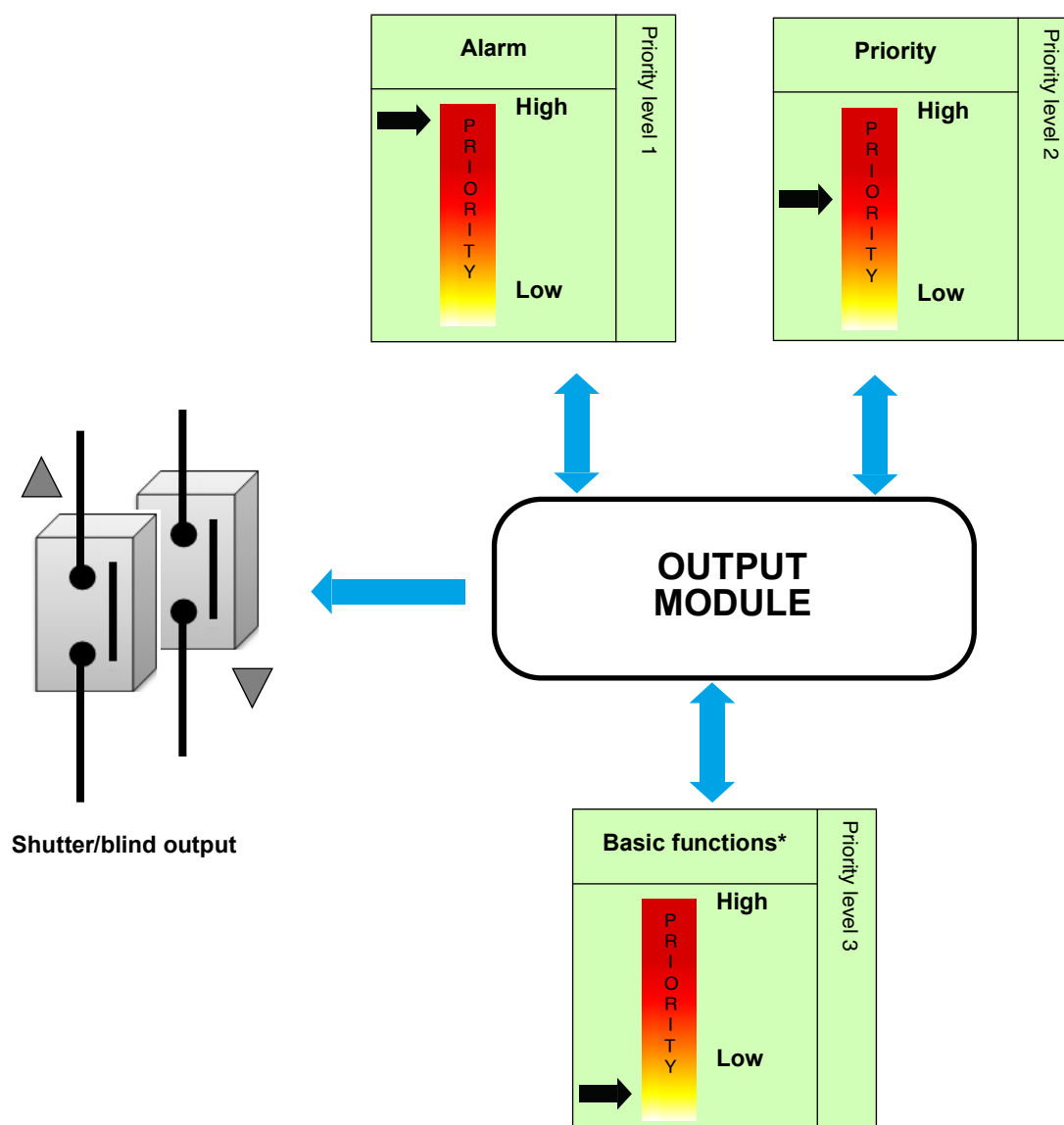
■ Status indication

The Status indication sends the switching status of the individual output contact on the KNX bus.

Communication objects



2.2.2 Shutter/blind



* Up/down - Step/stop control - Position in % - Slat angle (0-100%) - Scene: The last command received will have priority.

The applications allow individual configuration of the device outputs. The most important functions are:

■ Up/down

The UP/DOWN function is used to run up or down shutters, blinds, awnings, etc. This function can also be used to open and close electric blinds. The command can be given by touch sensors (long press), switches or automatically.

■ Central up/down switch

The Central up/down switching function is used to open or close a roller shutter group. The command can come from switches, buttons or other control inputs. Unlike the Up/Down function, it does not send the status indication of the controlled outputs. This prevents KNX bus saturation when switching outputs simultaneously.

■ Slat position/Stop

The Slat position/Stop function is used to adjust the slats of a blind or to stop its ongoing movement. This function can be used to alter the shade and the incidence of light from outside. The control command may be issued by a push button, for example: A short press on UP/DOWN buttons.

■ Stop

The Stop function is used to stop the movement of a shutter or blind. For a blind, this function does not alter the tilt of the slats.

■ Scene

The Scene function is used to switch groups of outputs into a configurable predefined state. Pressing a push button activates a scene. A scene is activated by receipt of a 1-byte command. Each output can be included in 64 different scenes.

■ Priority

The Priority function is used to force the output into a defined state.

Priority: Alarm > **Priority** > Basic function.

Application: Maintaining a hanging position for security reasons.

■ Alarm

With the Alarm function a shutter or blind can be positioned in a configurable predefined state.

Priority: **Alarm** > Priority > Basic function.

Up to 3 alarm functions are possible (Alarm 1 - Alarm 2 - Alarm 3).

The alarm prevents any actuation until an alarm cancellation command has been received.

■ Automatic control

The Automatic control function is used to control an output in parallel to the Up/Down or Slat tilt/stop function.

The functions have the same level of priority. The last command received will act on the status of the output.

An additional command object is used to activate or deactivate the Automatic control.

■ Manual mode

Manual mode allows the device to be disconnected from the bus. In this mode, each output can be priority controlled locally.

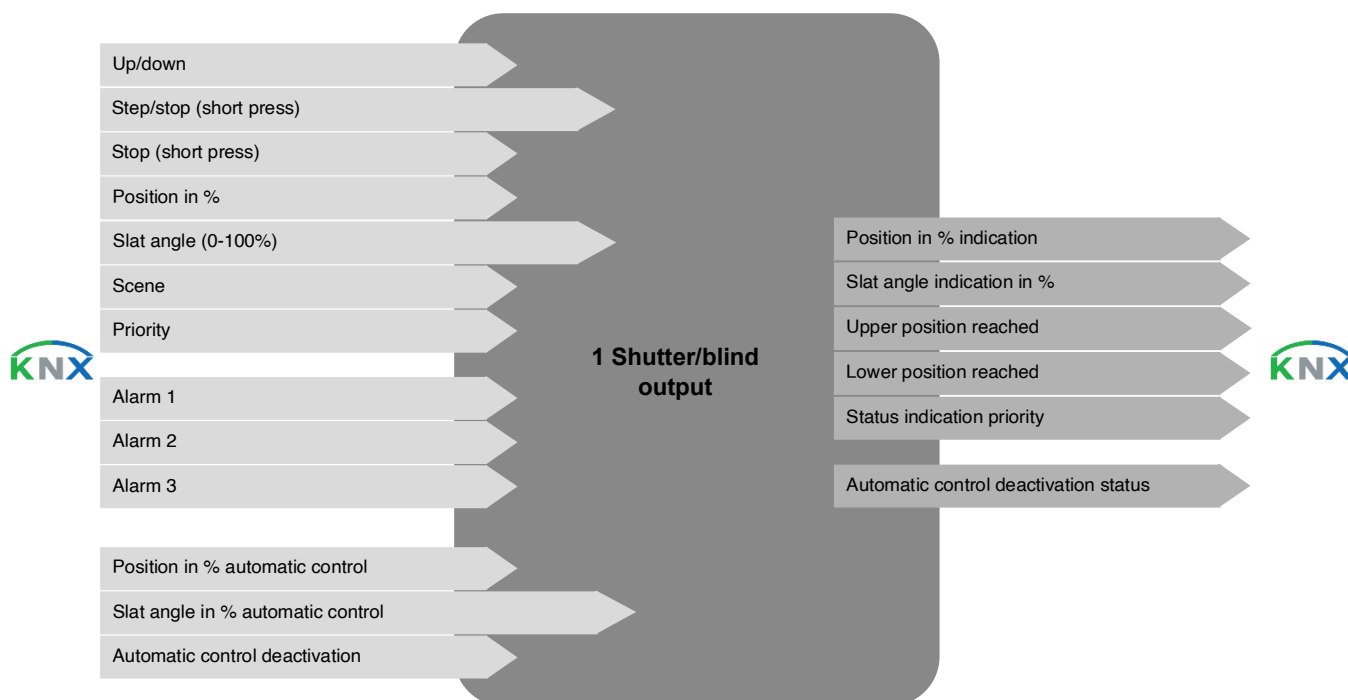
Note: Manual mode is not available with the 2 ON/OFF outputs module (TYBS602F).

■ Status indication

Using the Status indication function, the following can be sent via the bus:

- Position in % indication: Indicates the position of the shutter or blind.
- Indication of slat position in %: Indicates the slat pitch of the blind.
- Upper or lower position reached: Indicates arrival at the upper or lower position.

Communication objects











3. Programming by Easy Tool

The function of the different devices only differs in the number of outputs. For this reason, only one device or one output will ever be described.

3.1 Product overview









■ TYAS608D: 8 switch actuator

Product view:

Product		8 Outputs	
Name:	TYAS608D - 8-fold switch actuator	1	 TYAS608D - 1 - 1 House - Lighting
Use:	Lighting	2	 TYAS608D - 1 - 2 House - Lighting
Place:	House	3	 TYAS608D - 1 - 3 House - Lighting
Electrical tracking:	TYAS608D - 1	4	 TYAS608D - 1 - 4 House - Lighting
ⓘ Product : TYAS608D 8-fold switch actuator		5	 TYAS608D - 1 - 5 House - Lighting
Parameters		6	 TYAS608D - 1 - 6 House - Lighting
Configuration Channel 1-2:	Binary	7	 TYAS608D - 1 - 7 House - Lighting
Configuration Channel 3-4:	Binary	8	 TYAS608D - 1 - 8 House - Lighting
Configuration Channel 5-6:	Binary		
Configuration Channel 7-8:	Binary		

View of channels:

0 Input

8-fold output	
	TYAS608D - 1 - 1 Housing - Lighting
	TYAS608D - 1 - 2 Housing - Lighting
	TYAS608D - 1 - 3 Housing - Lighting
	TYAS608D - 1 - 4 Housing - Lighting
	TYAS608D - 1 - 5 Housing - Lighting
	TYAS608D - 1 - 6 Housing - Lighting
	TYAS608D - 1 - 7 Housing - Lighting
	TYAS608D - 1 - 8 Housing - Lighting

■ Product settings

This configuration window is used for general configuration of the device.

Parameters	
Configuration Channel 1-2:	Binary
Configuration Channel 3-4:	Binary
Configuration Channel 5-6:	Binary
Configuration Channel 7-8:	Binary

■ Channel settings

This parameter window is used to set the device outputs. These parameters are available individually for each output.

- ON/OFF

TYAS608D - 1 - 1	
Timer duration:	2 min
Cut-OFF pre-warning:	30 s

- Shutter/blind

TYAS608D - 1 - 1	
Closing type:	Shutter and blind
Sun position:	Not active
Wind Alarm level:	No Wind alarm
Position on wind alarm:	Not active
Rain Alarm:	No
Position on rain alarm:	Not active
Up movement duration:	120
Down movement duration:	120
Relay closing time for slat positioning (ms):	150
Total number of slat angles:	12

■ Available functionalities: ON/OFF












	ON		Automatic control OFF
	OFF		ON/OFF automatic control
	ON/OFF		Central ON
	Toggle switch		Central OFF
	Timer		Central ON/OFF switch
	Priority ON		Load shedding
	Priority OFF		Scene
	Priority ON push-button (1)		Scene switch
	Priority OFF push-button (1)		Automatic control deactivation
	Automatic control ON		Deactivation automatic toggle (1)



(1) This function is only available with push-button input products with LEDs indicating status.

Note: Dimming functions can also be linked with ON/OFF outputs. In this case, only the ON/OFF function is used. This procedure enables a same input to be connected to an ON/OFF output and to a dimming output.

	Increase dimming/ON
	Decrease dimming/OFF
	Increase/decrease dimming

■ Available functionalities: Shutter/blind

	Blinds up		Priority up
	Blinds down		Priority down
	Shutter UP		Priority up push-button (1)
	Shutter DOWN		Priority down push-button (1)
	Up/down toggle		Wind alarm
	Up/down		Rain alarm
	Down/up		Automatic control shutter angle
	Switch up		Automatic control slat angle
	Down switch		Automatic control shutter and slat angle
	Up/stop		Automatic control shutter position switch
	Down/stop		Automatic control inter slat angle
	Shutter position		Automatic control inter shutter and slat angle
	Slat angle		Central ON
	Shutter and slat angle		Central OFF
	Shutter angle switch		Central ON/OFF switch
	Slat angle switch		Scene
	Shutter and slat angle switch		Scene switch

	Automatic control deactivation		Deactivation automatic toggle (1)
---	--------------------------------	---	-----------------------------------

(1) This function is only available with push-button input products with LEDs indicating status.

3.2 Closing type for the outputs

This configuration window is used to set the Closing type for the outputs.
The following parameters are available:

ON/OFF

- Each switching contact is used separately to switch a load.

Shutter

- Each pair of outputs constitutes a shutter and blind channel.

Parameters
▼

Configuration Channel 1-2:

Binary

▼

Configuration Channel 3-4:

Binary

▼

Configuration Channel 5-6:

Binary

▼

Configuration Channel 7-8:

Binary

▼

Parameter	Description	Value
Configuration path x-y	<p>The outputs are used as ON/OFF switches.</p> <p>The outputs are used for shutters and blinds. One output for raising and one output for lowering.</p>	TOR/TOR* Shutter

The assignment of the outputs is carried out following:

	ON/OFF	Shutter and blind
Configuration path 1-2	Output 1: ON/OFF Output 2: ON/OFF	Output 1-2: Shutter and blind
Configuration path 3-4	Output 3: ON/OFF Output 4: ON/OFF	Output 3-4: Shutter and blind
Configuration path 5-6	Output 5: ON/OFF Output 6: ON/OFF	Output 5-6: Shutter and blind
Configuration path 7-8	Output 7: ON/OFF Output 8: ON/OFF	Output 7-8: Shutter and blind

* Default value

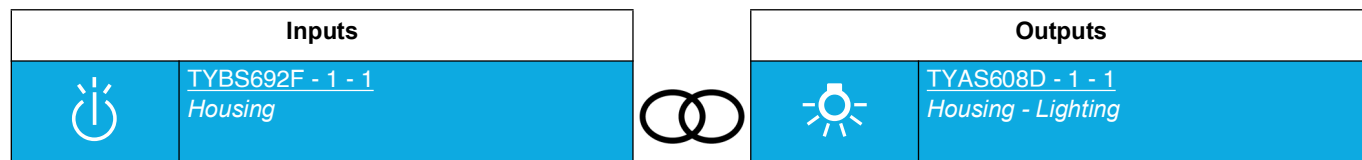
3.3 Product functionalities

3.3.1 Functions of each switch actuator

3.3.1.1 ON/OFF

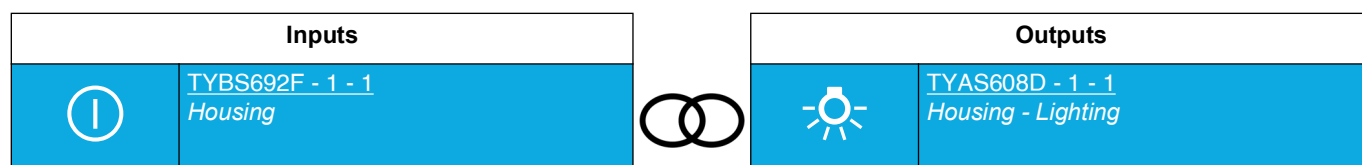
An output can be switched on or off using the ON/OFF function. The command can come from switches, buttons or other control inputs.

- **ON**: turns on the lighting circuit.



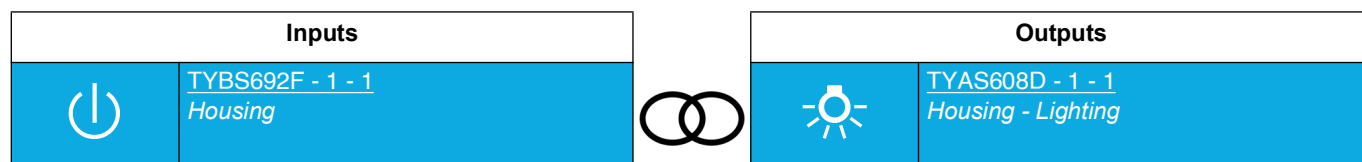
Closing input contact: turn on the light.
Opening input contact: no action.

- **OFF**: turns off the lighting circuit.



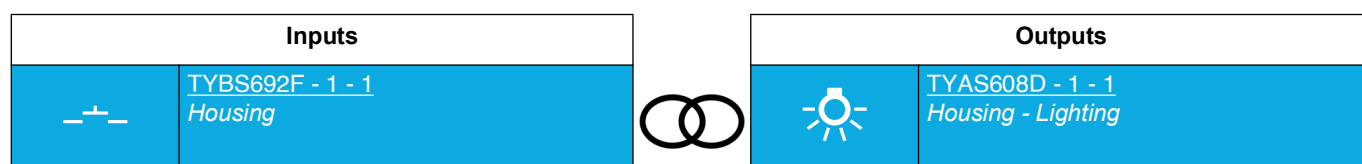
Closing input contact: turns off the light.
Opening input contact: no action.

- **ON/OFF**: turns on or shuts off the lighting circuit (switch).






Closing input contact: turn on the light.
Opening input contact: turns off the light.

- **Toggle switch**: inverses the lighting circuit status.



Closing input contact: switch between turning the lights on and off.
Successive closings inverse output contact status each time.

Note: Dimming functions can also be linked with ON/OFF outputs. In this case, only the ON/OFF function is used. This procedure enables a same input to be connected to an ON/OFF output and to a dimming output.

	Increase dimming/ON
	Decrease dimming/OFF
	Increase/decrease dimming

3.3.1.2 Timer

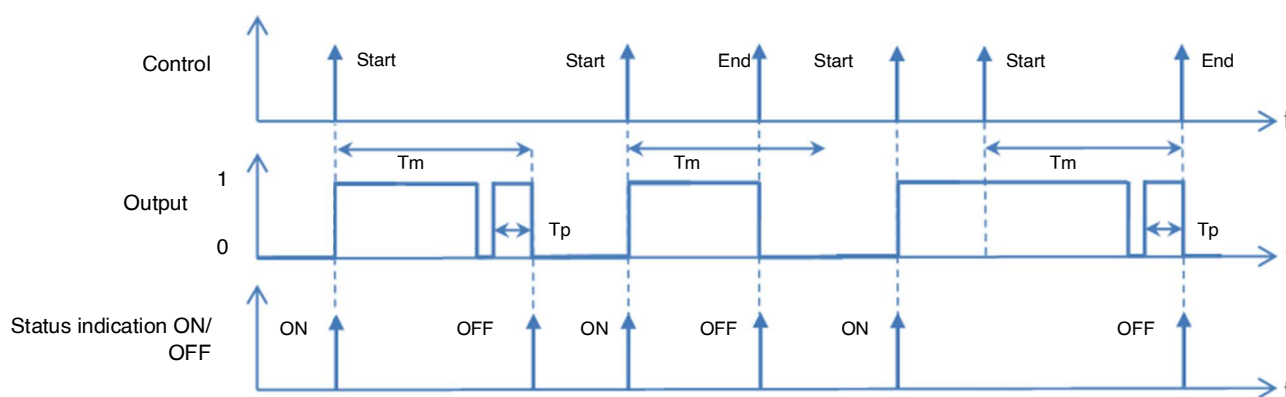
The Timer function is used to switch on a lighting circuit for a programmable period. The timer may be interrupted before expiry of the delay time. A programmable Cut-OFF pre-warning announces the end of the delay time by a 1-second inversion of the output status.

Timer duration:	2 min	▼
Cut-OFF pre-warning:	30 s	▼

Parameter	Description	Value
Timer duration	This parameter determines the timer duration.	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

Parameter	Description	Value
Cut-OFF pre-warning	This parameter determines the lead time of the cut-OFF pre-warning.	Not active, 15 s, 30 s* , 1 min

Operating principle:



Tm: Timer duration

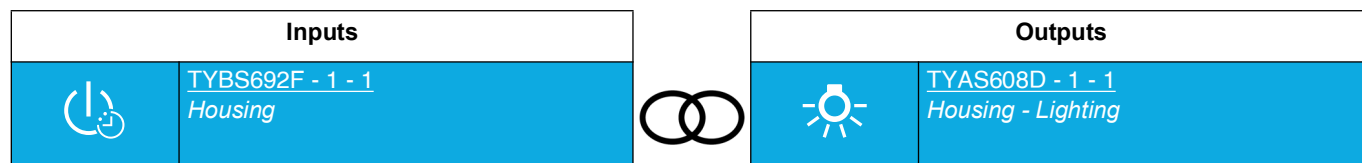
Tp: Pre-warning lead time

Note: If the lead time of the cut-OFF pre-warning is greater than the duration of the timer, the cut-OFF pre-warning is not triggered.

* Default value

■ The connection:

The Timer function is used to switch on a lighting circuit for a programmable period.




Brief closing of the input contact: timing function light switched on at the last saved level.


Timing function interruption:

Prolonged closing of the input contact: stop of timing delay in progress and light is turned off.

Note: At the time of connection, it is possible to define the timer duration.

Select function ✕


Outputs selected : 1 

TYBS692F - 1 - 1 

Timer duration: 2 min

Timer ▼

2 min ▼

1 

Link

Cancel

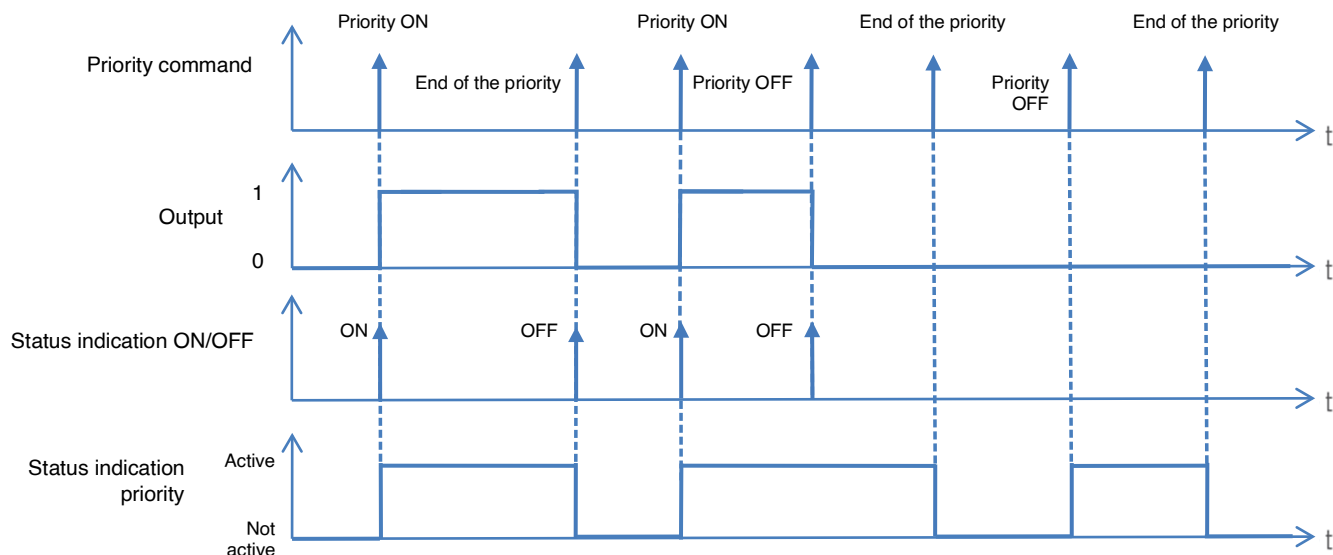
3.3.1.3 Priority

The Priority function is used to force the output into a defined state.

Priority: **Priority** > Basic function.

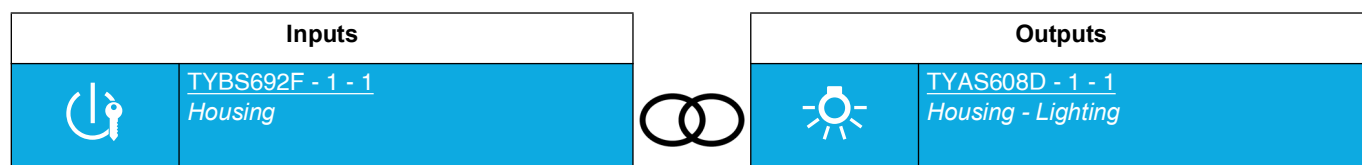
At the end of the priority, the output returns to the status it had before the priority (Memorisation function).

Operating principle:



■ Links

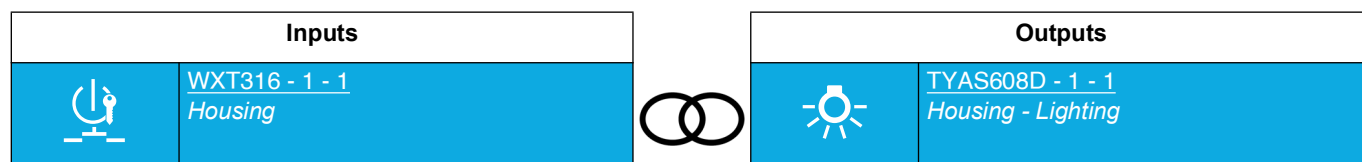
- **Priority ON:** allows forcing and keeping the lighting circuit on.



Closing input contact: turn on the light.

Opening input contact: end of the priority.

- **Priority ON push-button:** allows forcing and keeping the light circuit on using a push-button.



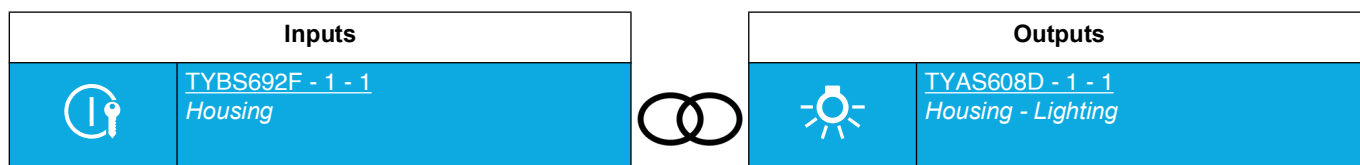
Closing input contact: turn on the light.

Opening input contact: no action.

A second closure of the input contact triggers the end of priority.

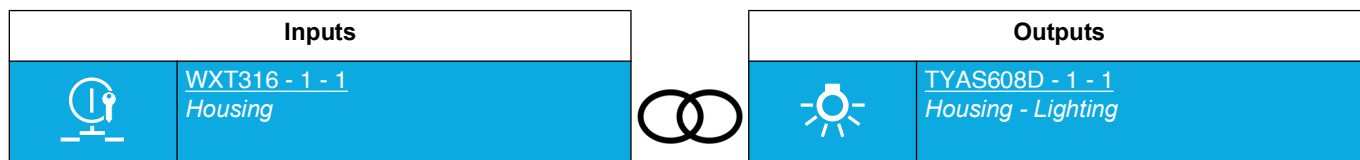
Note: This function is only available with push-button input products with LEDs indicating status.

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



Closing input contact: turns off the light.
Opening input contact: end of the priority.

- **Priority OFF push-button:** allows forcing and keeping the lighting circuit off using a push-button.



Closing input contact: turns off the light.
Opening input contact: no action.
A second closure of the input contact triggers the end of priority.

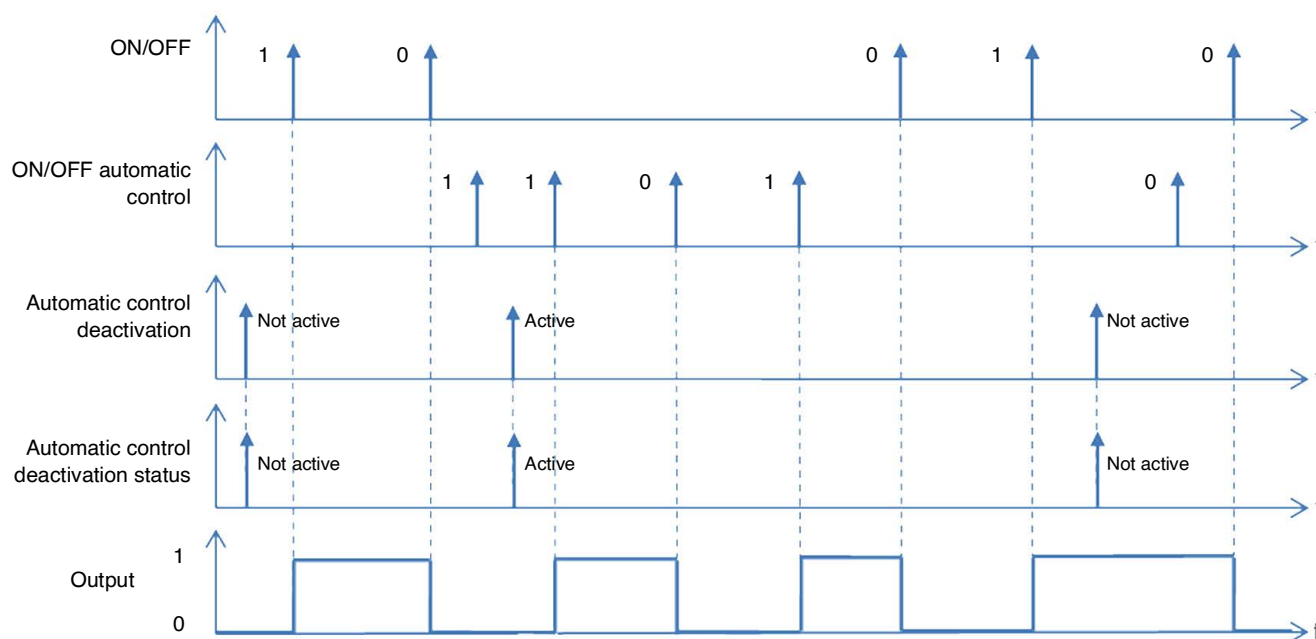
Note: This function is only available with push-button input products with LEDs indicating status.

3.3.1.4 Automatic control

The Automatic control function is used to command an output in parallel to the ON/OFF function. The two functions have the same level of priority. The last command received will act on the status of the output. An additional command object is used to activate or deactivate the Automatic control.

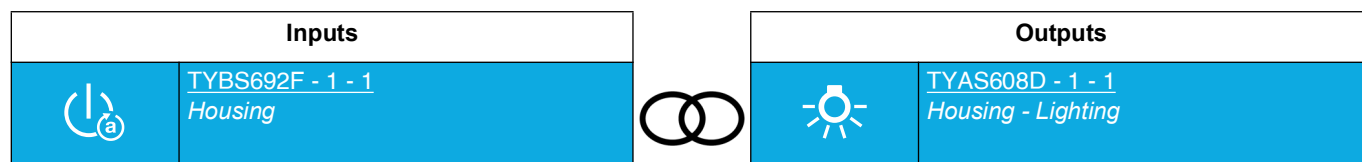
Example: when an output is controlled by a button and in parallel by an automatic control (timer, twilight switch, weather station, etc.) the automatic control can be deactivated for reasons of comfort (vacations, public holidays, etc.).

Operating principle:



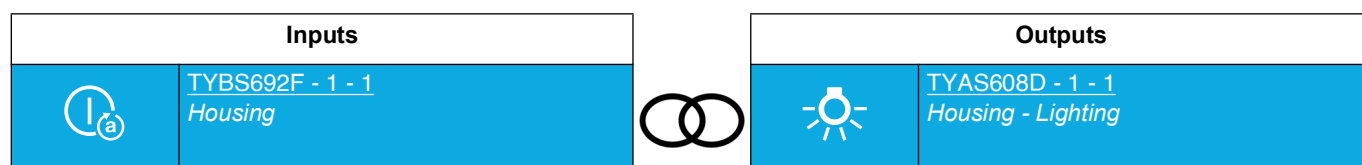
■ Links

- **Automatic control ON:** allows turning on the light circuit using automatic control.



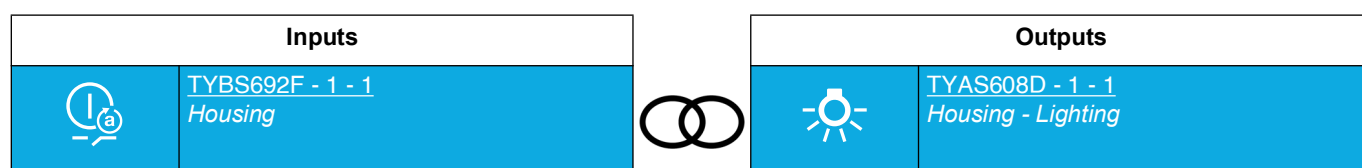
Closing input contact: turn on the light.
Opening input contact: no action.

- **Automatic control OFF:** allows switching off the light circuit using automatic control.



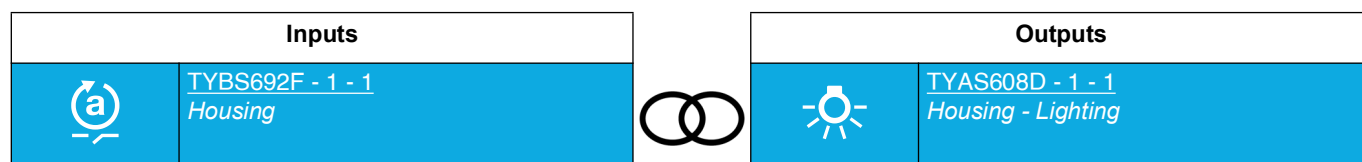
Closing input contact: turns off the light.
Opening input contact: no action.

- **ON/OFF automatic control:** allows turning the lighting circuit on or off using automatic control (switch).



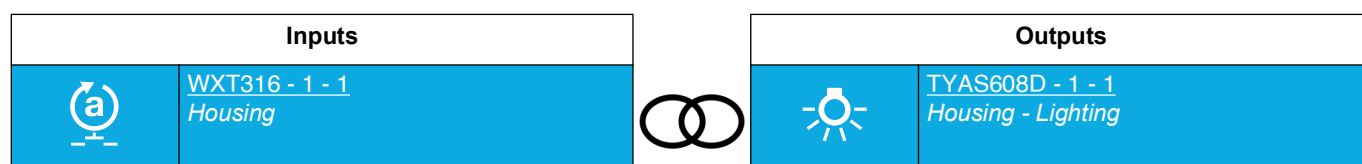
Closing input contact: turns on the light at the last saved level.
Opening input contact: turns off the light.

- **Automatic control deactivation:** deactivates automatic control.



Closing input contact: deactivated automatic control.
Opening input contact: activated automatic control.

- **Deactivation Automatic control push-button:** deactivates automatic control using a push-button.



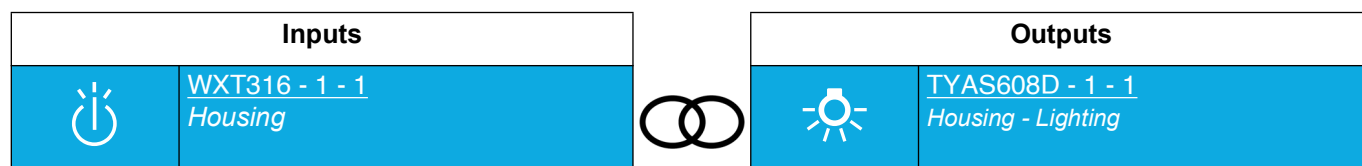
Closing input contact: deactivated automatic control.
Opening input contact: no action.
A second closing input contact triggers activation of the automatic control.

Note: This function is only available with push-button input products with LEDs indicating status.

3.3.1.5 Central ON/OFF switch

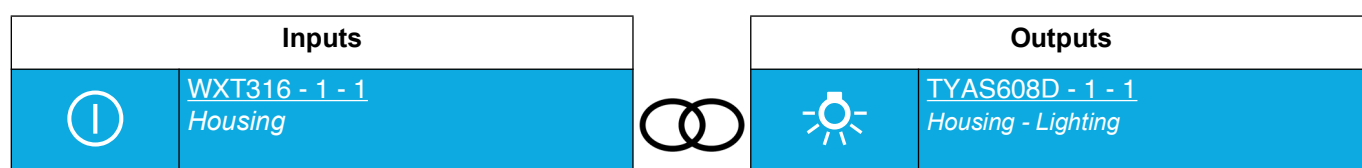
An output can be switched on or off using the ON/OFF function. The command can come from switches, buttons or other control inputs. Unlike the ON/OFF function, it does not send the status indication of the controlled outputs. This prevents KNX bus saturation when switching outputs simultaneously.

- **Central ON:** switches the lighting circuit on.



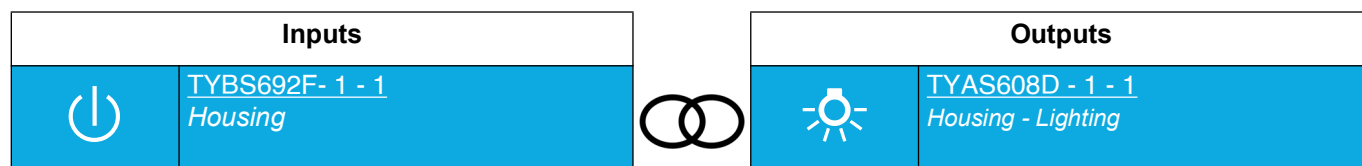
Closing input contact: turns on the light
Opening input contact: no action

- **Central OFF:** switches the lighting circuit off.



Closing input contact: turns off the light
Opening input contact: no action

- **Central ON/OFF switch:** switches the lighting circuit on or off (switch).



Closing input contact: turns on the light
Opening input contact: turns off the light

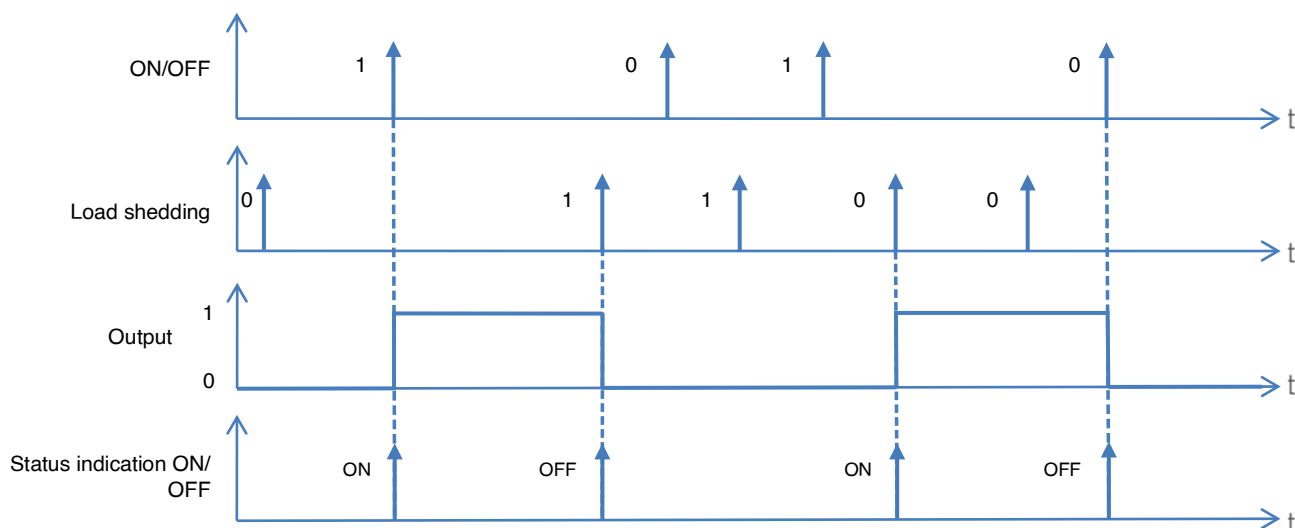
3.3.1.6 Load shedding

The Load shedding function is used to force an output to OFF.

Priority: **Load shedding** > Priority > Basic function.

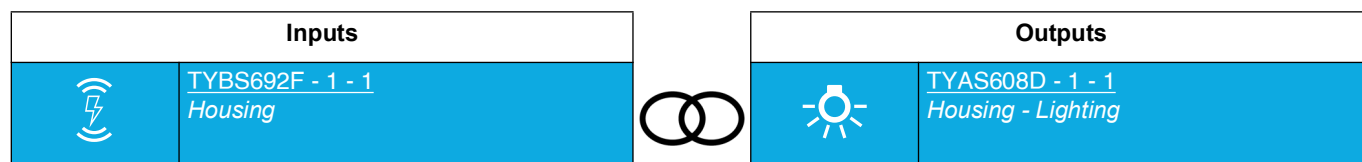
This command has the highest priority. No other command is taken into account if the mode is active. The status of the output is memorised but not applied. At the end of load shedding, the output is switched to the theoretical status without Load shedding (memorisation).

Example: Load shedding function



■ Links

- **Load shedding:** allows forcing an output to off.



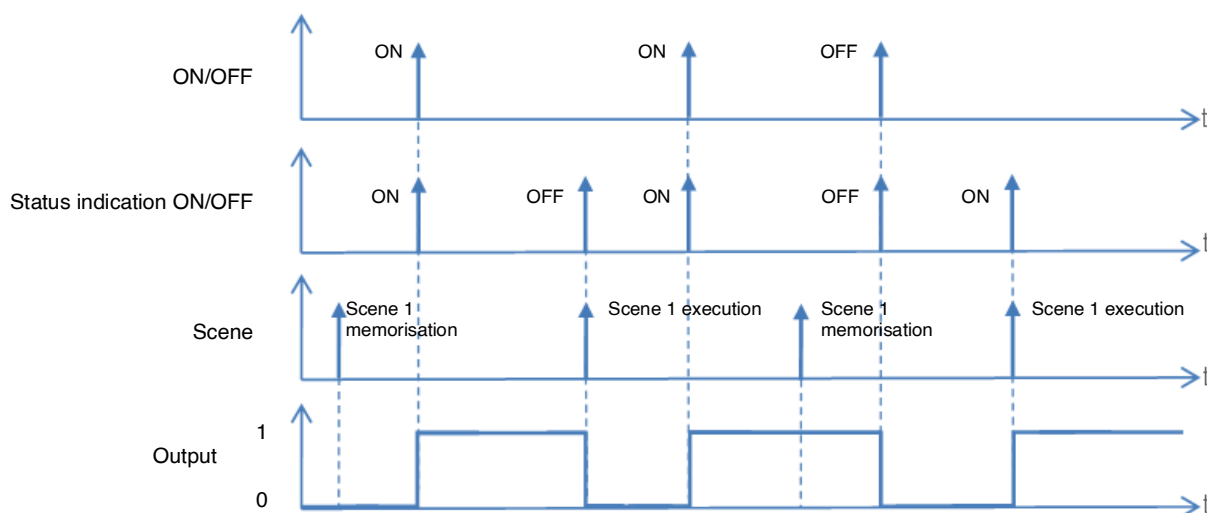
Closing input contact: priority of the output to off.

Opening input contact: return to output status before load shedding (memorisation).

3.3.1.7 Scene

The Scene function is used to switch groups of outputs into a configurable predefined state. Each output can be included in 8 different scenes.

Operating principle:



Learning and storing scenes

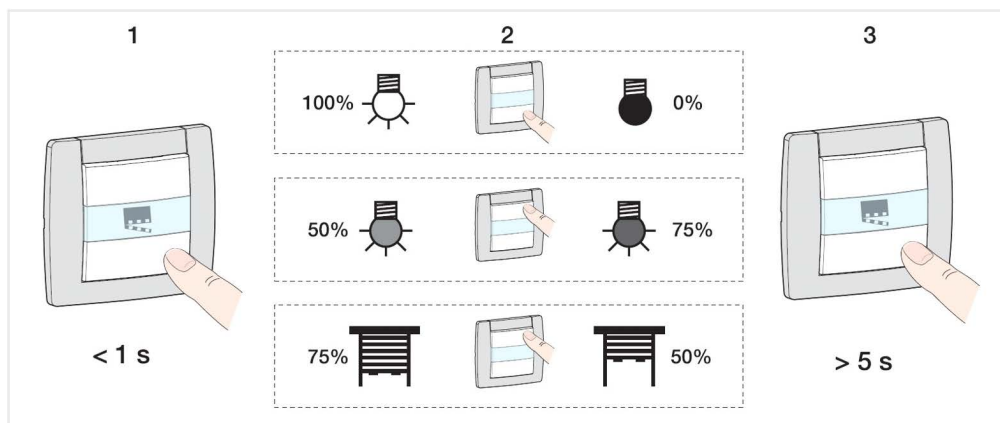
This process is used to change and store a scene. For example, by locally pressing the key in the room or by emission of the values from a visualization.

To access and store scenes, the following values must be sent:

Scene number	Access scene (Object value: 1 byte)	Store scene (Object value: 1 byte)
1-64	= Scene number -1	= Scene number +128
Examples		
1	0	128
2	1	129
3	2	130
...	...	
64	63	191

Here is the scene memorisation for local switches, for example.

- Activate scene by briefly pressing the transmitter that starts it.
- The outputs (lights, shutters, etc.) are set in the desired state using the usual local control devices (buttons, remote control, etc.).
- Memorise the status of the outputs with a press greater than 5 seconds long on the transmitter that starts the scene. The memorisation can be displayed by short-term activation of the outputs.



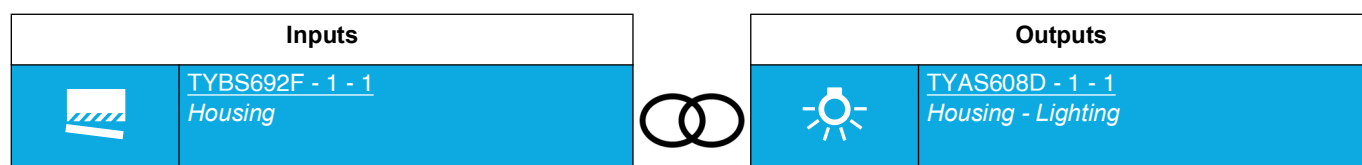
Product learning and memorisation

This procedure allows modifying a scene using a local action on the push buttons located on the front side of the product.

- Activate the scene using a short press on the ambiance push button, which triggers the scene,
- Set the product to manual mode and set the outputs to the desired status by pressing the push-buttons associated with the outputs,
- Return to Auto mode,
- Save the scene using a long push for more than 5 seconds on the push-button that triggers the scene,
- Memorisation is signalled by the inversion of the concerned output status for 3 sec.

■ Links

- **Scene:** the scene is activated by pressing the push-button.



Closing input contact: scene activation.

Opening input contact: no action.

Note: At the time the connection is made, the scene number must be defined for the closing input contact.

Select function

×

Outputs selected : 1

TYBS692F - 1 - 1

Scene

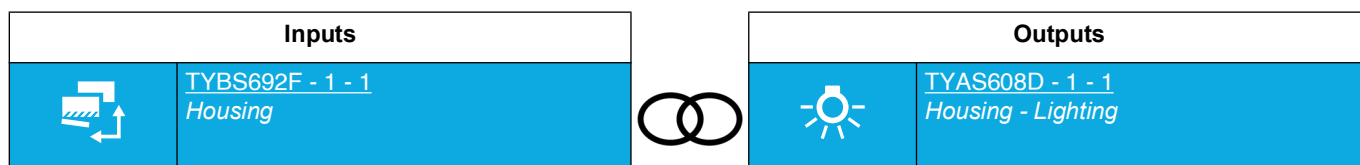
1

Scene number 1: 1

Link

Cancel


- **Scene switch:** the scene is activated according to the closing or opening input contact.




Closing input contact: scene activation 1.
Opening input contact: scene activation 2.


Note: At the time the connection is made, the scene number must be defined for the closing and opening input contact.

Select function ✕

Outputs selected : 1 

TYBS692F - 1 - 1 

Scene switch

1 

Scene
number 1:

Scene
number 2:

Link

Cancel

3.3.2 Functions for each shutter/blind output

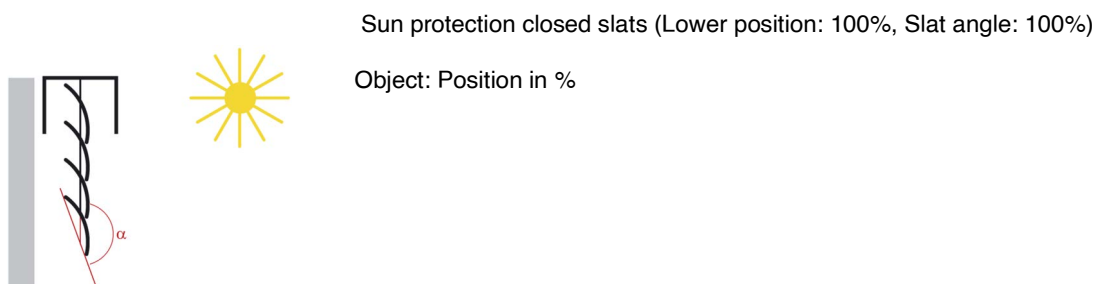
Slat position for horizontal slats

The blind drive actuators have 2 limit position switches and can be run to a Sun protection position using a position setting in percent. The value of "0%" is used to control the upper position (i.e. Sun protection fully open) or is reported as a status.

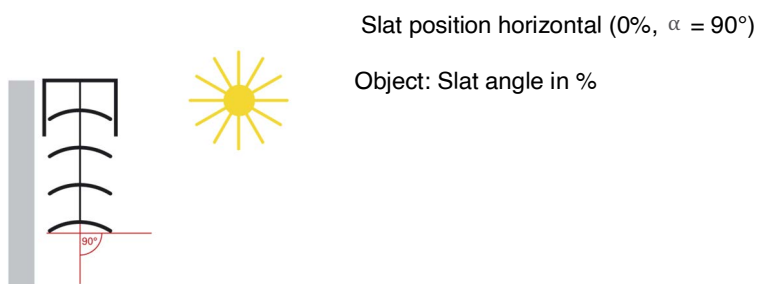


If the lower position is to be approached, then this will be sent to the blinds as Sun protection position 100% or on reaching the lower position (i.e. Sun protection completely closed). The position will be reported using this value. If a blind is run from the upper position, the slats initially tilt into an almost vertical position and then the sun protection runs with closed slats to the lower position.

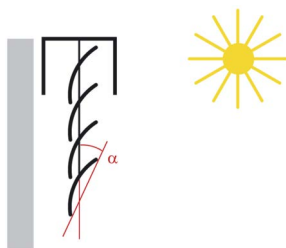
When the blind is located at the lower position and the slats are fully closed, then this slat position is described as vertical and equal to 100%. Normally, however, fully closed slats have no exactly vertical position ($\alpha = 180^\circ$) but rather form a small angle with the vertical.



From their vertical position (completely closed, 100%) the slats can be adjusted to their horizontal position (fully open, 0% and $\alpha = 90^\circ$). The blind drive used thus determines whether this adjustment can be carried out using many small steps or whether it is only possible via a few large steps (As with most standard drives).



For standard blinds, the slats can be adjusted continuously to the horizontal position or until the slat adjustment ends and the raising of the blind begins. The slats then form an angle of between 0° and 90° with the vertical.

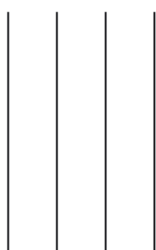


Slat position at the start of moving the blind (Up)

Object: Slat angle in %

Slat position for vertical slats

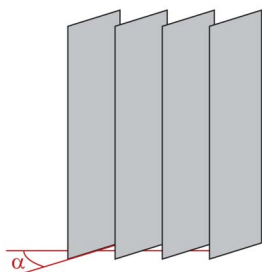
If an interior shade or privacy shield with vertical slats is controlled via a blind actuator, then the position in which the slats are fully open is controlled or reported as the 0% slat position. The slats then form an angle of 90° with the direction of travel from Shade fully open to Shade fully closed.



Fully opened vertical slats (Slat angle 0%)

Object: Slat angle in %

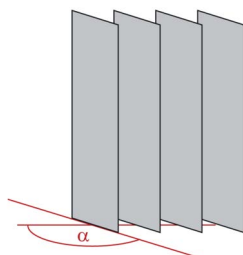
If the slats are fully closed, this position will be controlled and reported as slat position 100%. This is the position to which the shade is run from its side limit position in front of the window. The angle that the slats then form with the direction of movement is therefore a little $> 0^\circ$.



Fully closed vertical slats (Slat angle 100%)

Object: Slat angle in %



If the shade is then driven back (i.e. opened), then the vertical slats are turned to a position that is somewhat smaller than 180° .



Vertical slats at the start of moving UP

3.3.2.1 Pathway parameters

These parameters are available individually for each output (Pair).


TYAS608D - 1 - 1


Closing type: Shutter and blind

Sun position: Not active

Wind Alarm level: No Wind alarm

Position on wind alarm: Not active

Rain Alarm: No

Position on rain alarm: Not active

Up movement duration: 120

Down movement duration: 120

Relay closing time for slat positioning (ms): 150

Total number of slat angles: 12

Parameter	Description	Value
Closing type	This parameter defines the operating mode used for the affected outputs. An operating mode of the shutter and blind type gives access to additional parameters to control the slat pitch.	Shutter Shutter and blind*

Parameter	Description	Value
Complete up movement duration	This parameter defines the time taken, during which the contact must be closed, to reach the upper position.	1... 120* ...500 s

Parameter	Description	Value
Complete down movement duration	This parameter defines the time taken, during which the contact must be closed, to reach the lower position.	1... 120* ...500 s

Parameter	Description	Value
Relay closing time for slat positioning (ms)	This parameter defines how long the contacts must be closed in order to perform an elementary angle step for the slats.	1... 150* ...2500 ms

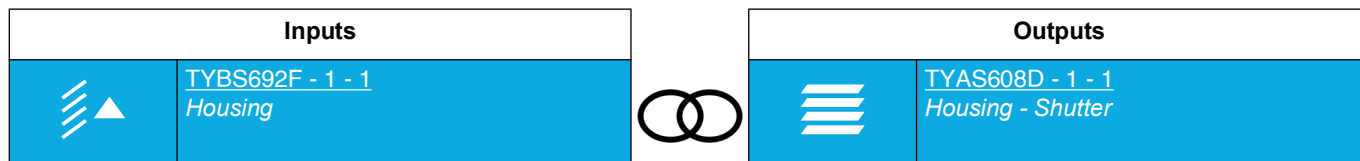
Parameter	Description	Value
Total number of slat angles	This parameter defines the total number of elementary slat steps available for adjusting the slats from the inclined downwards position to be inclined upwards position.	1... 12* ...50

*Note: Before setting the **Total number of slat angles** parameter, it is essential to first set the closed contact duration for an elementary slat step.*

* Default value

3.3.2.2 Up/down

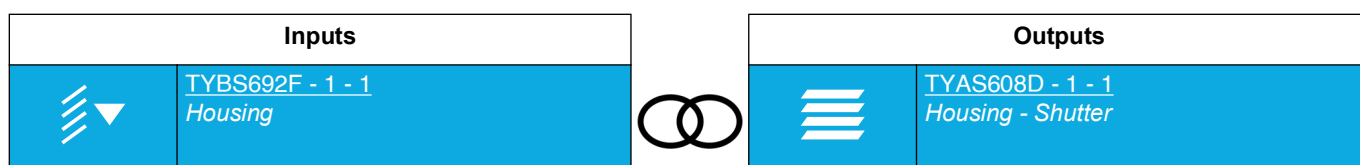
- **Blinds up:** allows to raise or stop a blind or tilt the blind slats.



Brief closing of the input contact: brief closing of the raise input contact.
 Prolonged closing of the input contact: delayed closing of the raise output contact.
 Opening input contact: no action.

Note: If a brief input contact occurs during the delay, the output contact opens (stop function).

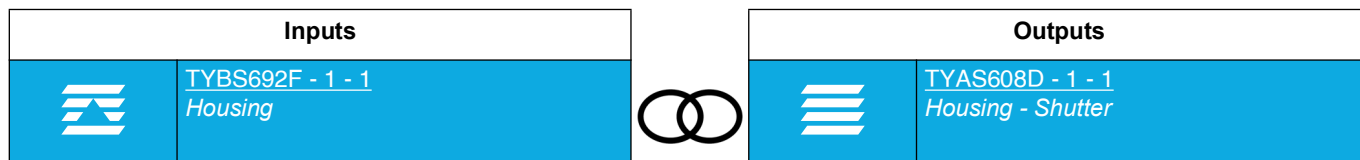
- **Blinds down:** allows to lower or stop a blind or tilt the blind blades.



Brief closing of the input contact: brief closing of a lowering output contact.
 Prolonged closing of the input contact: delayed closing of the lowering output contact.
 Opening input contact: no action.

Note: If a brief input contact occurs during the delay, the output contact opens (stop function).

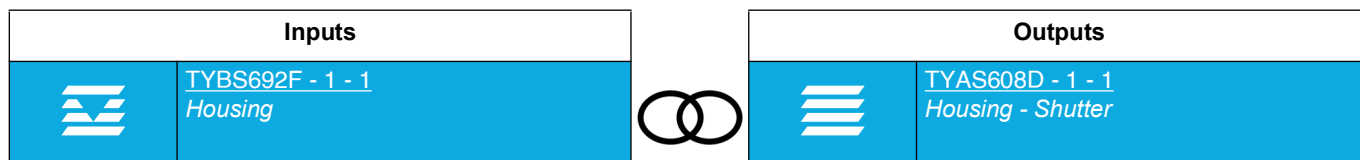
- **Shutter UP:** allows to raise or stop a rolling shutter.



Prolonged closing of the input contact: delayed closing of the raise output contact.
 Opening input contact: no action.

Note: If a brief input contact occurs during the delay, the output contact opens (stop function).

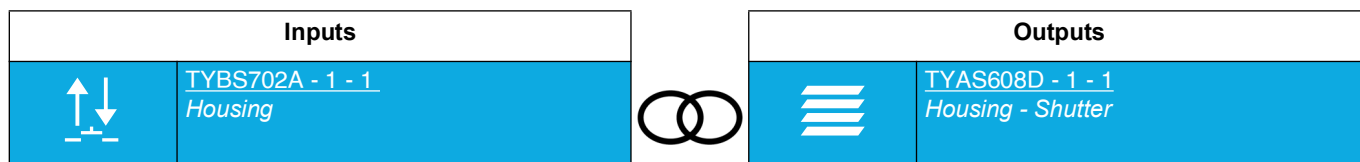
- **Shutter DOWN:** allows to lower or stop a rolling shutter.



Prolonged closing of the input contact: delayed closing of the lowering output contact.
 Opening input contact: no action.

Note: If a brief input contact occurs during the delay, the output contact opens (stop function).

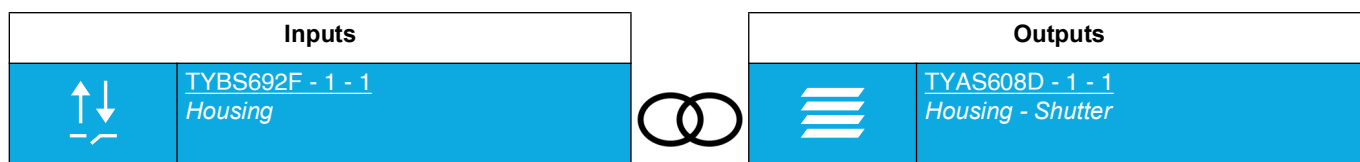
- **Up/down toggle:** inverses the direction of the shutter (up or down).



Closing input contact: switches between raising and lowering the shutter.

Successive closings reverse the shutter direction each time.

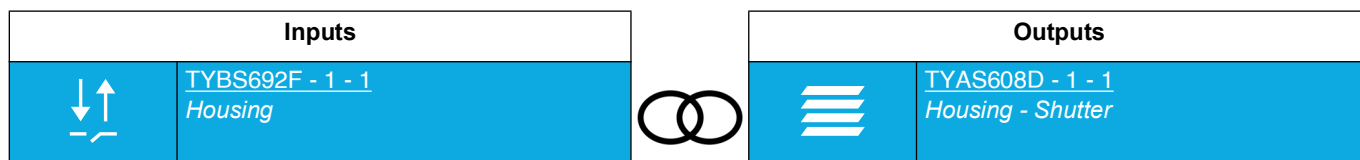
- **Up/down:** allows to raise or lower a rolling shutter or a blind using a switch.



Closing input contact: delayed closing of the raise output contact.

Opening input contact: delayed closing of the lowering output contact.

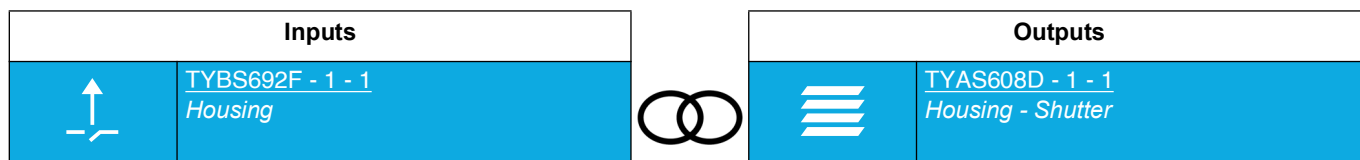
- **Down/up:** allows to raise or lower a rolling shutter or a blind using a switch.



Closing input contact: delayed closing of the lowering output contact.

Opening input contact: delayed closing of the raise output contact.

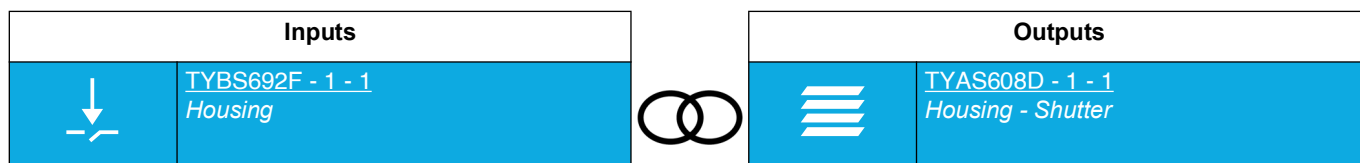
- **Switch up:** allows to raise a rolling shutter or a blind using a switch.



Closing input contact: delayed closing of the raise output contact.

Opening input contact: no action.

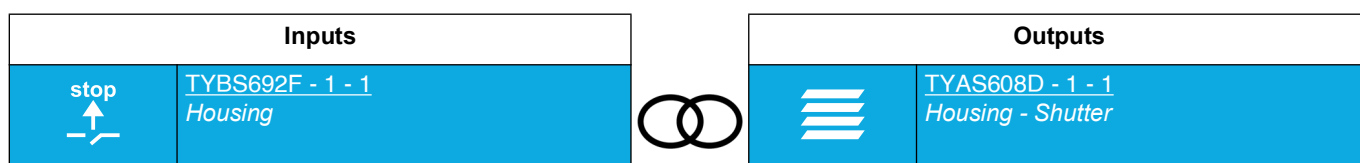
- **Down switch:** allows to lower a rolling shutter or a blind using a switch.



Closing input contact: delayed closing of the lowering output contact.

Opening input contact: no action.

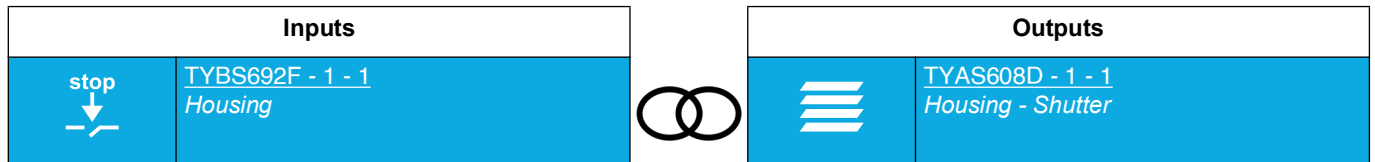
- **Up/stop:** allows to raise or stop a rolling shutter or a blind using a switch.



Closing input contact: delayed closing of the raise output contact.

Opening input contact: opening an output contact (stop function).

- **Down/stop:** allows to lower or stop a rolling shutter or a blind using a switch.

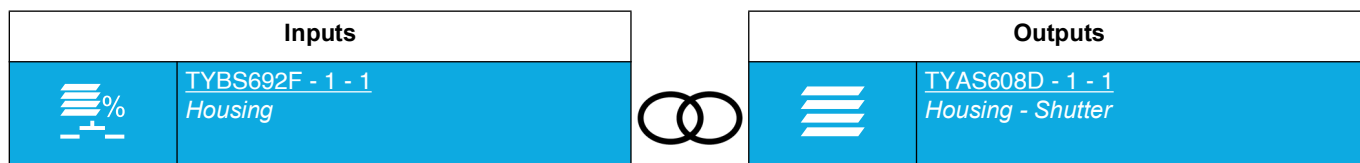


Closing input contact: delayed closing of the lowering output contact.

Opening input contact: opening an output contact (stop function).

3.3.2.3 Shutter or blind angle

- **Shutter position:** allows to angle a rolling shutter or blind to the desired height according to a value in %.





Closing input contact: delayed closing of output contacts for angling the shutter or blind.

Opening input contact: no action.

Note: When the connection is made, the value in % of the shutter angle must be defined (0%: upper position, 100%: lower position).


Select function ✕

Outputs selected : 1 

TYBS692F - 1 - 1 

Position shutter
▼

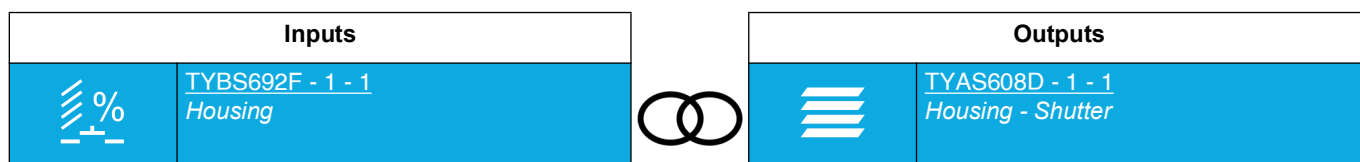
Position 1 (0-100%):

1 

Link

Cancel

- **Slat angle:** allows positioning shutter slats according to a value in %.





Closing input contact: delayed closing of output contacts for the shutter slat tilt.

Opening input contact: no action.

Note: When the connection is made, the value in % of the shutter slat angle must be defined (0%: slats open, 100%: slats closed).


Select function ✕

Outputs selected : 1 

TYBS692F - 1 - 1 

Position slat
▼

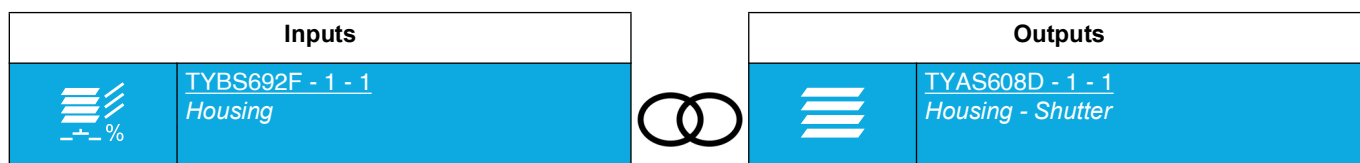
Slat angle 1 (0-100%):

1 

Link

Cancel


- **Shutter and slat angle:** allows positioning a rolling shutter or blind at the desired height and the blind slats according to a value in %.




Closing input contact: delayed closing of output contacts for the shutter or blind angle and for the blind slat tilt.
 Opening input contact: no action.

Note: When the connection is made, the value in % for the shutter position must be defined (0%: high position, 100% low position) and the value in % of the blind slat position (0%: slats open, 100%: slats closed).

Select function ✕


Outputs selected : 1 

TYBS692F - 1 - 1 

Position shutter and slat
▼

Position 1
(0-100%):

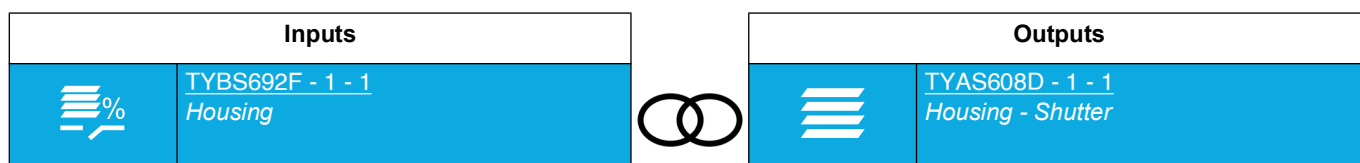
Slat angle 1
(0-100%):

1 

Link

Cancel


- **Shutter angle switch:** allows positioning a rolling shutter or blind at the desired height according to a value in % using a switch.




Closing input contact: delayed closing of output contacts for position 1 of the shutter or blind.
 Opening input contact: delayed closing of output contacts for position 2 of the shutter or blind.

Note: When the connection is made, values must be defined in % for shutter positions 1 and 2 (0%: upper position, 100%: lower position).

Select function ✕


Outputs selected : 1 

TYBS692F - 1 - 1 

Position shutter switch
▼

Position 1
(0-100%):

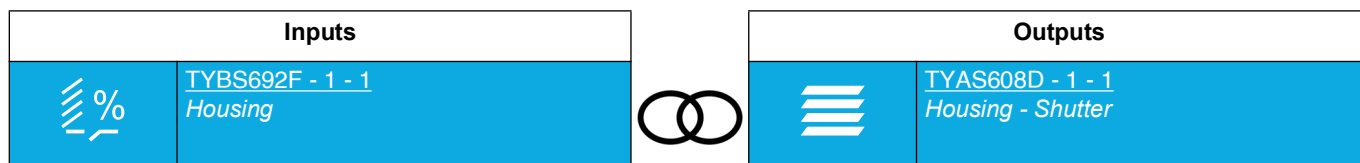
Position 2
(0-100%):

1 

Link

Cancel

- **Slat angle switch:** allows positioning blind slats according to a value in % using a switch.



Closing input contact: delayed closing of output contacts for position 1 of the blind slats.

Opening input contact: delayed closing of output contacts for position 2 of the blind slats.

Note: When the connection is made, values must be defined in % for blind slat positions 1 and 2 (0%: slats open, 100%: slats closed).

Select function ✕

Outputs selected : 1

TYBS692F - 1 - 1

Slat angle 1
(0-100%):

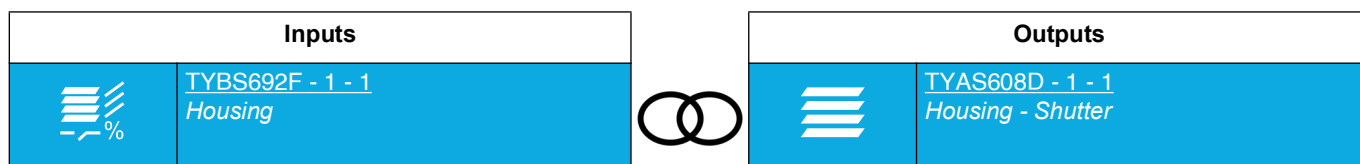
Position slat switch ▼

1

Slat angle 2
(0-100%):

Link
Cancel

- **Shutter and slat angle switch:** allows positioning a rolling shutter or a blind at the desired height and the blind slats according to a value in % using a switch.



Closing input contact: delayed closing of output contacts for position 1 of the shutter or blind and for position 1 for blind slats.

Opening input contact: delayed closing of output contacts for position 2 of the shutter or blind and for position 2 for blind slats.

Note: When the connection is made, values must be defined in % for shutter positions 1 and 2 (0%: high position, 100%: low position) and values in % for blind slats positions 1 and 2 (0%: slats open, 100%: slats closed).

Select function ✕

Outputs selected : 1

TYBS692F - 1 - 1

Position 1
(0-100%):

Position shutter and slat switch ▼

1

Position 2
(0-100%):

Slat angle
1 (0-100%):

Slat angle
2 (0-100%):

Link
Cancel

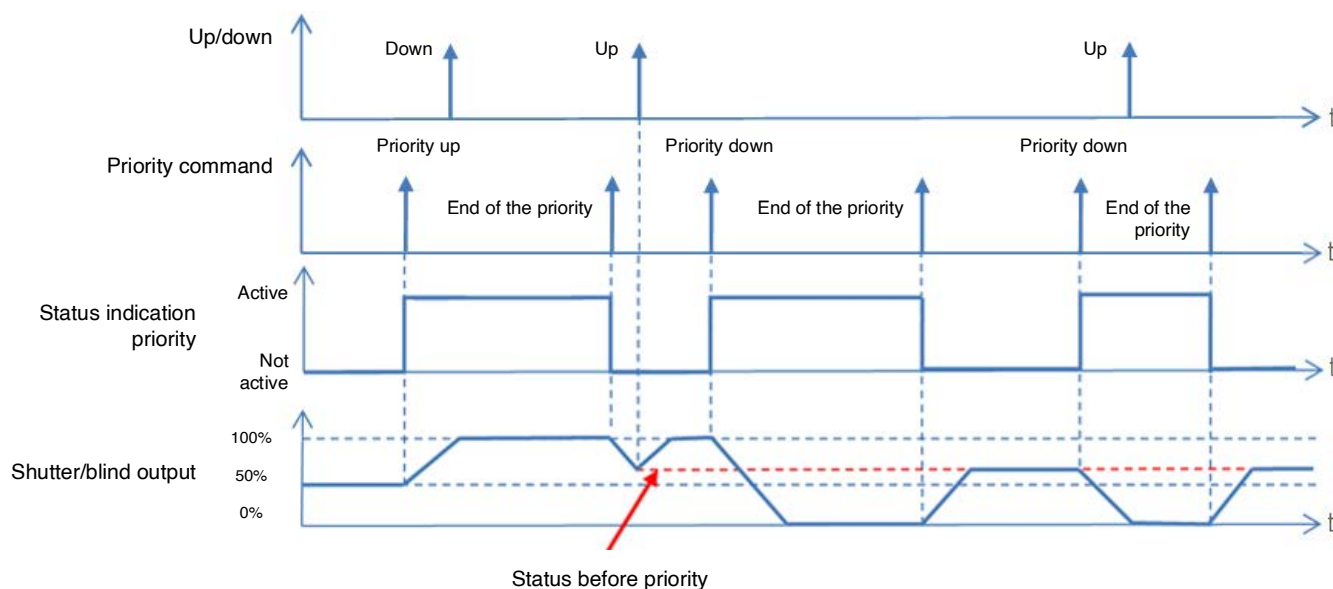
3.3.2.4 Priority

The Priority function is used to force the output into a defined state.

Priority: Alarm > **Priority** > Basic function.

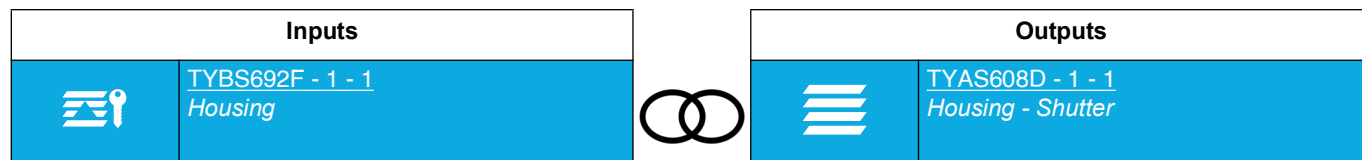
At the end of the priority, the output returns to the status it had before the priority (Memorisation function).

Operating principle:



■ Links

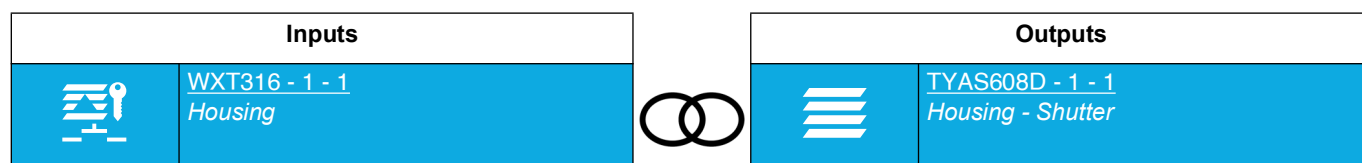
- **Priority up:** allows forcing a rolling shutter or blind to raise.



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

Opening input contact: end of the priority.

- **Priority up push-button:** allows forcing a rolling shutter or blind to raise using a push-button.



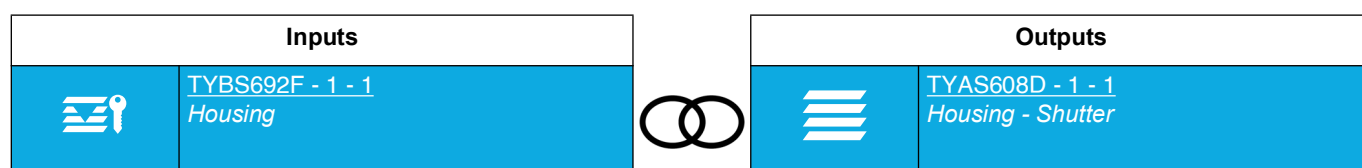
Closing input contact: activation priority and delayed closing of the raise output contact.

Opening input contact: no action.

A second closure of the input contact triggers the end of priority.

Note: This function is only available with push-button input products with LEDs indicating status.

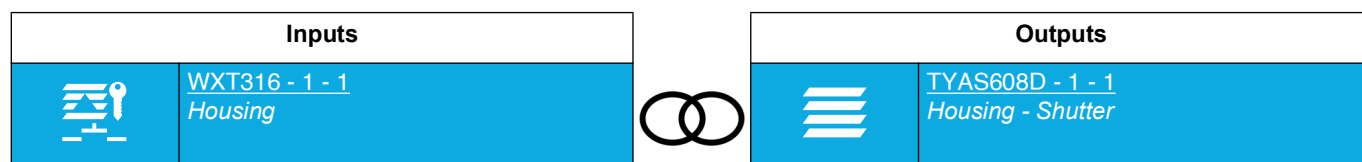
- **Priority down:** allowing forcing a rolling shutter or blind to lower.



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

Opening input contact: end of the priority.

- **Priority down push-button:** allows forcing a rolling shutter or blind to lower using a push-button.



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

Opening input contact: no action.

A second closure of the input contact triggers the end of priority.

Note: This function is only available with push-button input products with LEDs indicating status.

3.3.2.5 Alarm

With the Alarm function a shutter or blind can be positioned in a configurable predefined state.

Priority: **Alarm** > Priority > Basic function.

The alarm prevents any actuation until an alarm cancellation command has been received.

Up to 2 alarm functions are possible (Wind alarm > Rain alarm).

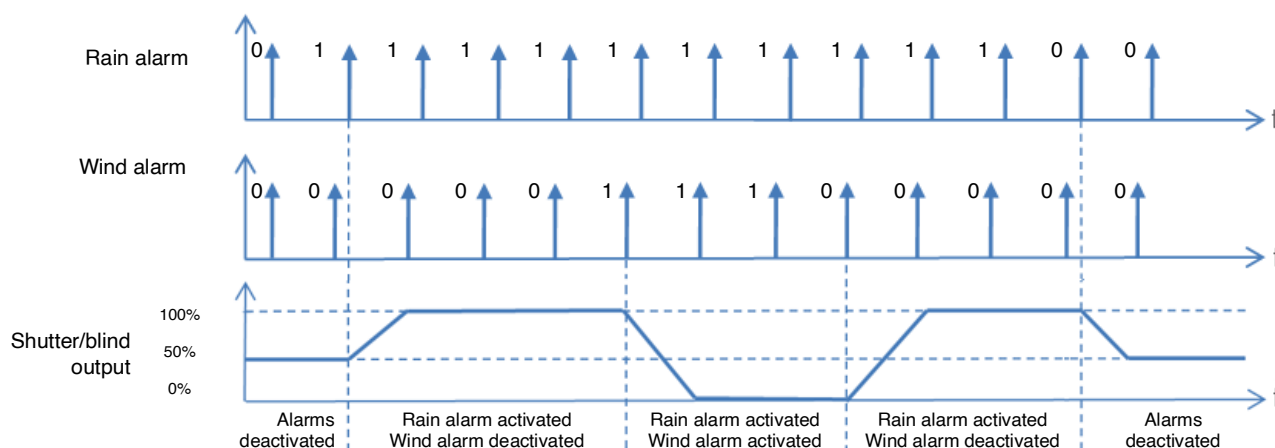
When an alarm appears, change in output status is defined by a setting (Up, Down, Unchanged position).

After the alarm, the shutter or blind takes up the position it would be in if no alarm had occurred.

Operating principle:

Example:

- Position on rain alarm: up.
- Position on wind alarm: down.



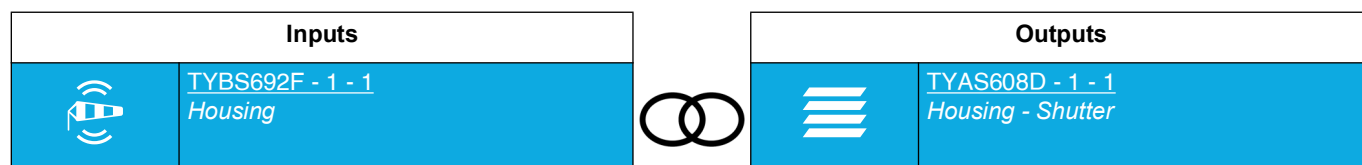
If several alarms triggered at the same time, the commands associated with the highest priority alarm are executed.

For the alarms, the connections are made in 2 ways:

- Classic connections: Alarm information is sent using an input product connected to the KNX bus. Therefore, information can come from any device other than KNX having a dry contact output.
- Automatic connections: Alarm information is sent directly to the KNX bus. In general, it comes from a weather station connected to the KNX bus. In this case, the connection is made through a simple configuration.

■ Links

- **Wind alarm:** allows to set the rolling shutter or blind in a defined position when the alarm is activated.



Closing input contact: wind alarm activation.

Opening input contact: alarm end.

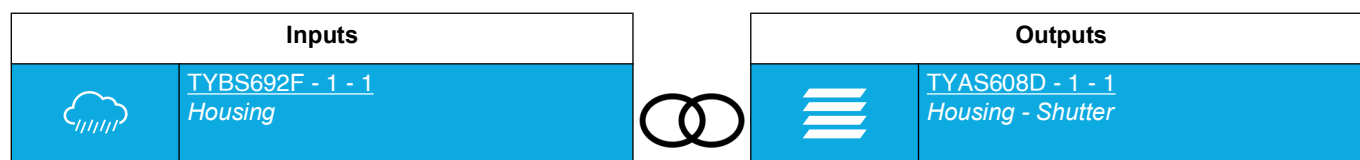
The rolling shutter or blind angle is defined through a setting.

Wind Alarm level:	No Wind alarm	▼
Position on wind alarm:	Not active	▼

Parameter	Description	Value
Position on wind alarm	During the wind alarm, the shutter/blind output: Not changed Closes the Up contact Closes the down contact	Not active* Up Down

Note: The setting **Wind alarm level** is not taken into account with this type of connection.

- **Rain alarm:** allows to set the rolling shutter or blind in a defined position when the alarm is activated.



Closing input contact: rain alarm activation.
Opening input contact: alarm end.

The rolling shutter or blind angle is defined through a setting.

Rain Alarm:	No	▼
Position on rain alarm:	Not active	▼

Parameter	Description	Value
Position on rain alarm	Defines the status of the shutter output on receipt of the rain alarm.	Not active* Up Down

Note: The setting **rain alarm** is not taken into account with this type of connection.

■ Automatic connections

This link is established depending on the configuration of products.

- **Wind alarm:** allows to set the rolling shutter or blind in a defined position when the alarm is activated.

For the wind alarm, please refer to the shutter configuration.

Wind Alarm level:	No Wind alarm	▼
Position on wind alarm:	Not active	▼

Parameter	Description	Value
Wind alarm stepping switch	Activates the shutter output on receipt of wind alarms 1, 2 or 3.	No wind alarm* Step 1 Step 2 Step 3

Wind alarm 1: The alarm is activated if the wind speed > 4 m/s (14.4km/h)
Wind alarm 2: The alarm is activated if the wind speed > 8 m/s (28.8km/h)
Wind alarm 3: The alarm is activated if the wind speed > 12 m/s (43.2km/h)

Note: Please refer to the weather station documentation for further information.

* Default value

Parameter	Description	Value
Position on wind alarm	During the wind alarm, the shutter/blind output: Not changed Closes the Up contact Closes the down contact	Not active* Up Down

- **Rain alarm:** allows to set the rolling shutter or blind in a defined position when the alarm is activated.

For the rain alarm, please see the shutter configuration.

Rain Alarm:

Position on rain alarm:

Parameter	Description	Value
Rain alarm	Activates the shutter output on receipt of the rain alarm.	Yes No*

Parameter	Description	Value
Position on rain alarm	Defines the status of the shutter output on receipt of the rain alarm.	Not active* Up Down

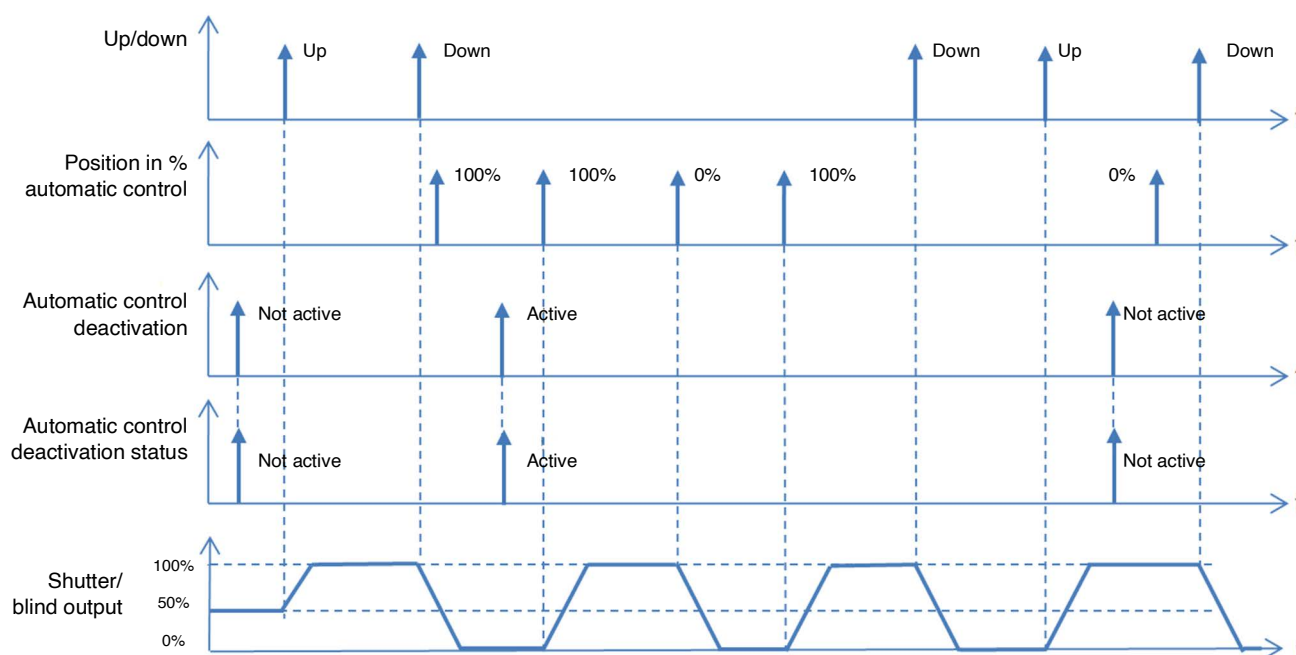
* Default value

3.3.2.6 Automatic control

The Automatic control function is used to control an output in parallel to the Up/Down or Slat tilt/stop function. The functions have the same level of priority. The last command received will act on the status of the output. An additional command object is used to activate or deactivate the Automatic control.

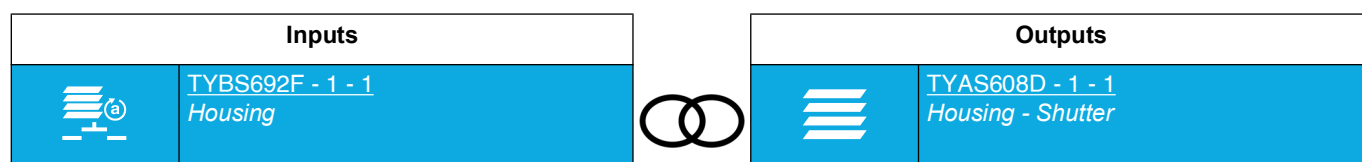
Example: when an output is controlled by a button and in parallel by an automatic control (timer, twilight switch, weather station, etc.) the automatic control can be deactivated for reasons of comfort (vacations, public holidays, etc.).

Operating principle:



■ Links

- **Automatic control shutter angle:** allows positioning a rolling shutter or blind to the desired height according to a value in % using automatic control.



Closing input contact: delayed closing of output contacts for angling the shutter or blind.

Opening input contact: no action.

Note: When the connection is made, the value in % of the shutter angle must be defined (0%: upper position, 100%: lower position).

Select function

Outputs selected : 1

TYBS692F - 1 - 1

Position shutter automatic control

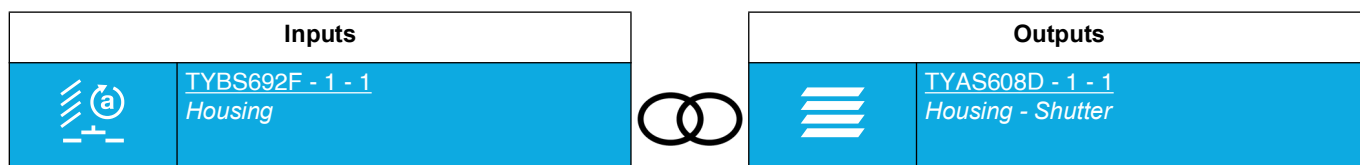
Position 1 (0-100%):

100

Link

Cancel


- **Automatic control slat angle:** Allows positioning blind slats according to a value in % using automatic control.




Closing input contact: delayed closing of output contacts for the shutter slat tilt.
 Opening input contact: no action.

Note: When the connection is made, the value in % of the shutter slat angle must be defined (0%: slats open, 100%: slats closed).


Select function ✕

Outputs selected : 1 

TYBS692F - 1 - 1 

Position slat automatic control
▼

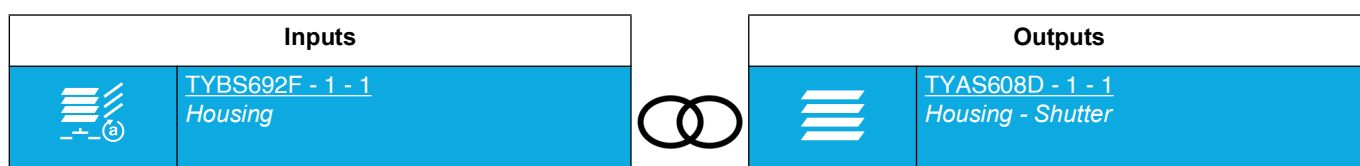
Slat angle 1 (0-100%):

1 

Link

Cancel


- **Automatic control shutter and slat angle:** allows positioning a rolling shutter or blind to the desired height and blind slats according to a value in % using automatic control.




Closing input contact: delayed closing of output contacts for the shutter or blind angle and for the blind slat tilt.
 Opening input contact: no action.

Note: When the connection is made, the value in % for the shutter position must be defined (0%: high position, 100% low position) and the value in % of the blind slat position (0%: slats open, 100%: slats closed).

Select function ✕


Outputs selected : 1 

TYBS692F - 1 - 1 

Position shutter and slat automatic control
▼

Position 1
(0-100%):

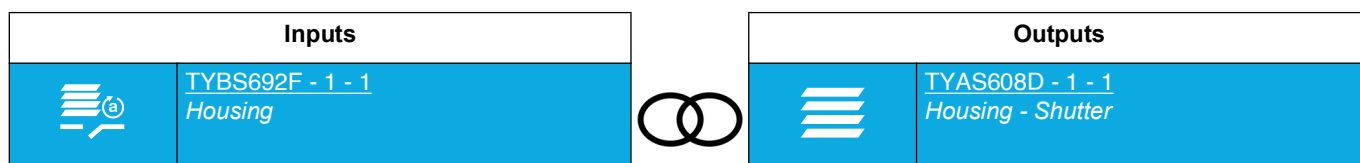
Slat angle 1
(0-100%):

1 

Link

Cancel

- **Automatic control shutter position switch:** allows positioning a rolling shutter or blind to the desired height according to a value in % using a switch and automatic control.





Closing input contact: delayed closing of output contacts for position 1 of the shutter or blind.

Opening input contact: delayed closing of output contacts for position 2 of the shutter or blind.

Note: When the connection is made, values must be defined in % for shutter positions 1 and 2 (0%: upper position, 100%: lower position).

Select function ✕


Outputs selected : 1 

TYBS692F - 1 - 1 

Position shutter switch automatic control
 ▼

Position 1
(0-100%):




Position 2
(0-100%):

1 

Link

Cancel

- **Automatic control inter slat angle:** allows positioning blind slats according to a value in % using a switch and automatic control.


Inputs		Outputs
 <div style="border: 1px solid black; padding: 5px; width: 100%;"> TYBS692F - 1 - 1 Housing </div>		 <div style="border: 1px solid black; padding: 5px; width: 100%;"> TYAS608D - 1 - 1 Housing - Shutter </div>


Closing input contact: delayed closing of output contacts for position 1 of the blind slats.

Opening input contact: delayed closing of output contacts for position 2 of the blind slats.

Note: When the connection is made, values must be defined in % for blind slat positions 1 and 2 (0%: slats open, 100%: slats closed).

Select function ✕


Outputs selected : 1 

TYBS692F - 1 - 1 

Position slat switch automatic control
 ▼

Slat angle 1
(0-100%):

Slat angle 2
(0-100%):

1 

Link

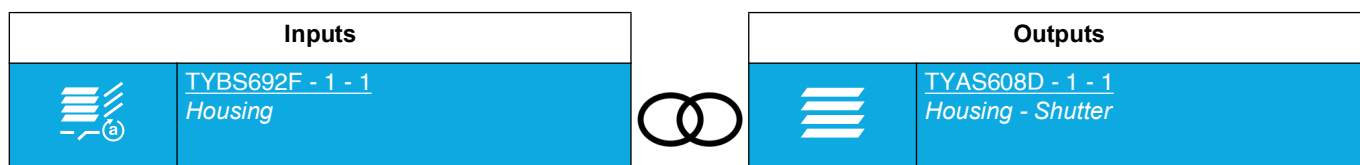
Cancel

TYBS602F-TYAS608D-TYMS616D-TYMS620D

47

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- **Automatic control inter shutter and slat angle:** allows positioning a rolling shutter or blind to the desired height and blind slats according to a value in % using a switch or automatic control.




Closing input contact: delayed closing of output contacts for position 1 of the shutter or blind and for position 1 for blind slats.
 Opening input contact: delayed closing of output contacts for position 2 of the shutter or blind and for position 2 for blind slats.

Note: When the connection is made, values must be defined in % for shutter positions 1 and 2 (0%: high position, 100%: low position) and values in % for blind slats positions 1 and 2 (0%: slats open, 100%: slats closed).

Select function ✕

Outputs selected : 1 

TYBS692F - 1 - 1 

Position 1 (0-100%):

Position shutter and slat switch automatic control

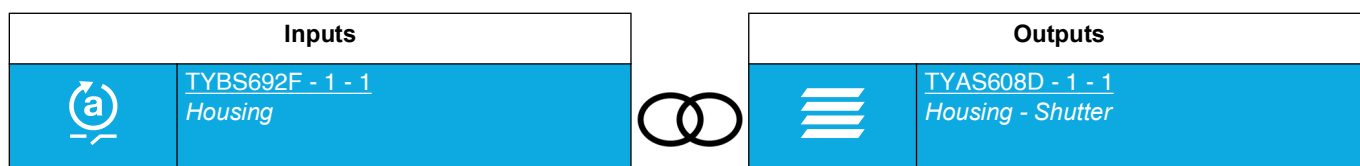
Position 2 (0-100%):

Slat angle 1 (0-100%):

Slat angle 2 (0-100%):

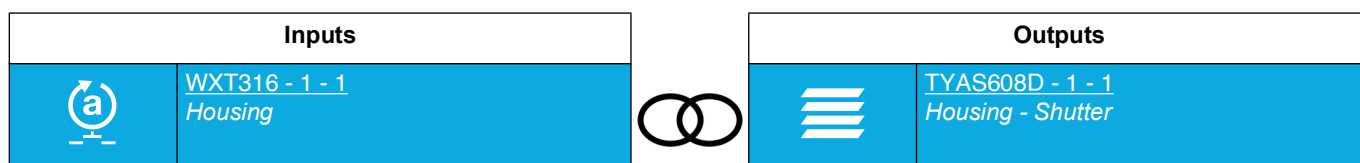
Link
Cancel

- **Automatic control deactivation:** deactivates automatic control.



Closing input contact: deactivated automatic control.
 Opening input contact: activated automatic control.

- **Deactivation Automatic control push-button:** deactivates automatic control using a push-button.



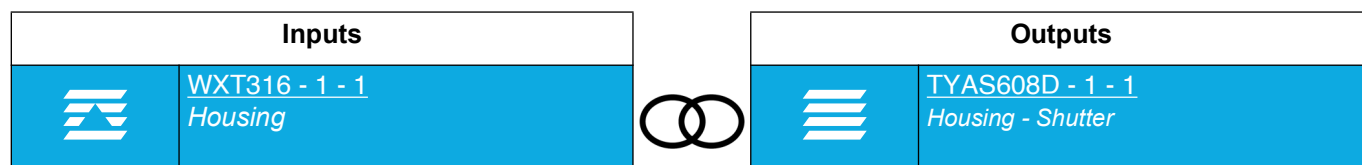
Closing input contact: deactivated automatic control.
 Opening input contact: no action.
 A second closing input contact triggers activation of the automatic control.

Note: This function is only available with push-button input products with LEDs indicating status.

3.3.2.7 Central Up/Down switch

The Central up/down switching function is used to open or close a roller shutter group. The command can come from switches, buttons or other control inputs. Unlike the Up/Down function, it does not send the status indication of the controlled outputs. This prevents KNX bus saturation when switching outputs simultaneously.

- **Central Up:** Enables roller shutters to be raised or stopped.

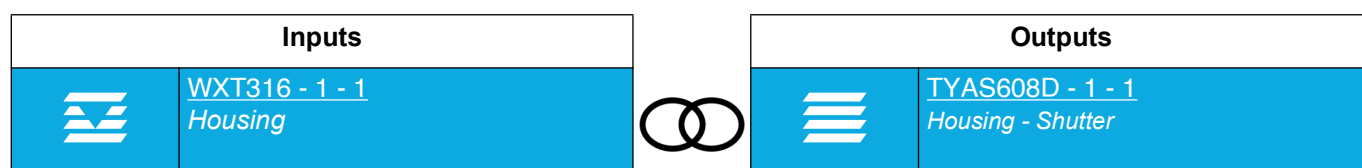


Prolonged closing of the input contact: delayed closing of the raise output contact.

Opening input contact: no action.

Note: If a brief input contact occurs during the delay, the output contact opens (stop function).

- **Central Down:** Enables shutters to be lowered or stopped.

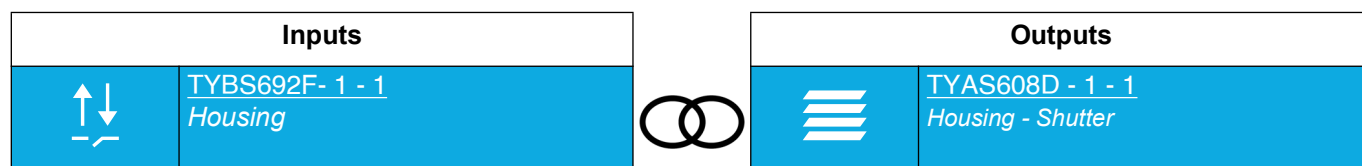


Prolonged closing of the input contact: delayed closing of the lowering output contact.

Opening input contact: no action.

Note: If a brief input contact occurs during the delay, the output contact opens (stop function).

- **Central Up/Down switch:** Allows roller shutters to be raised or lowered using a switch.



Closing input contact: delayed closing of the raise output contact.

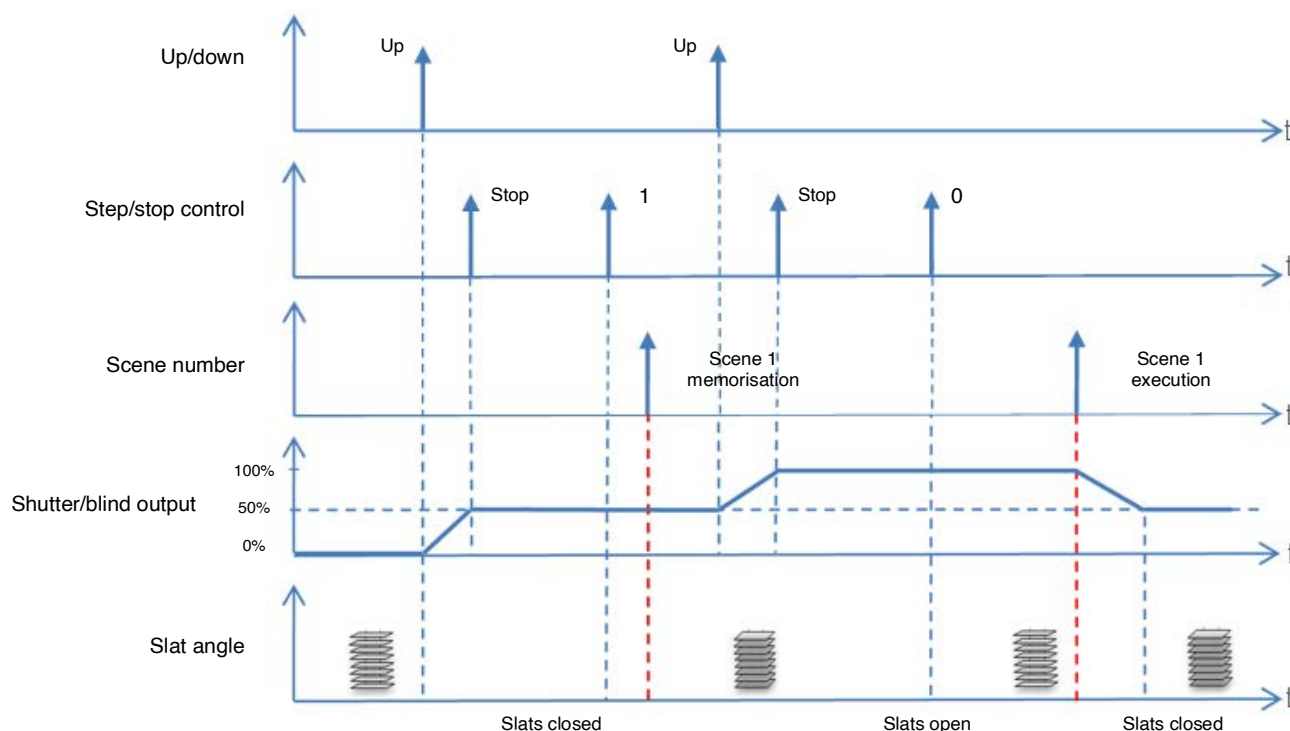
Opening input contact: delayed closing of the lowering output contact.

3.3.2.8 Scene

The Scene function is used to switch groups of outputs into a configurable predefined state. Each output can be included in 8 different scenes.

When the scene is memorised, the position and angle of the slats are memorised.

Operating principle:



Learning and storing scenes

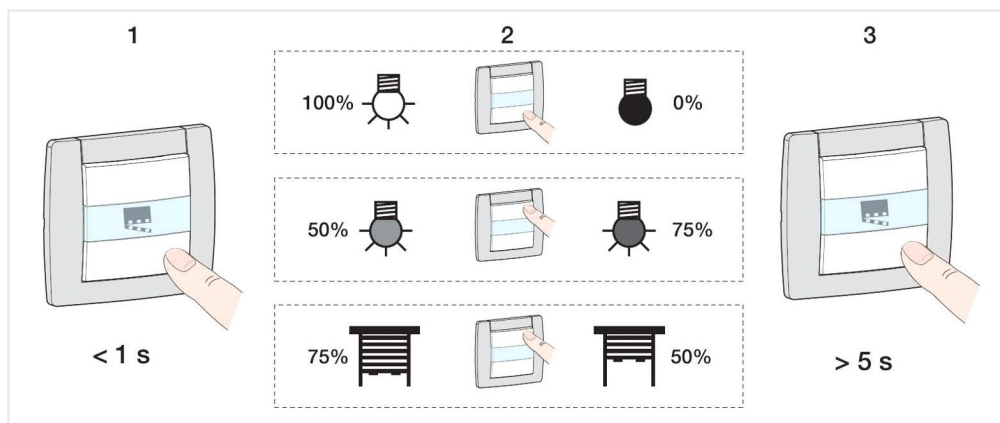
This process is used to change and store a scene. For example, by locally pressing the key in the room or by emission of the values from a visualization.

To access and store scenes, the following values must be sent:

Scene number	Access scene (Object value: 1 byte)	Store scene (Object value: 1 byte)
1-64	= Scene number - 1	= Scene number + 128
Examples		
1	0	128
2	1	129
3	2	130
...	...	
64	63	191

Here is the scene memorisation for local switches, for example.

- Activate scene by briefly pressing the transmitter that starts it,
- The outputs (lights, shutters, etc.) are set in the desired state using the usual local control devices (buttons, remote control, etc.),
- Memorise the status of the outputs with a press greater than 5 seconds long on the transmitter that starts the scene. The memorisation can be displayed by short-term activation of the outputs.



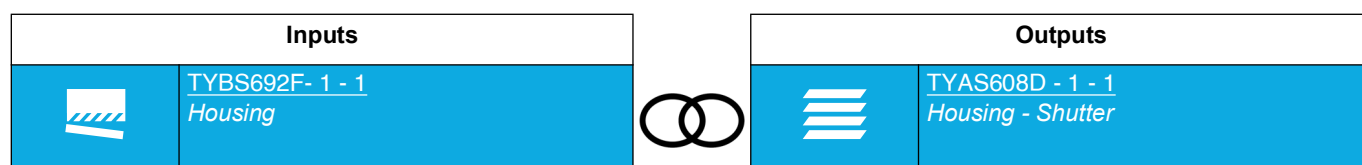
Product learning and memorisation

This procedure allows modifying a scene using a local action on the push buttons located on the front side of the product.

- Activate the scene using a short press on the ambiance push button, which triggers the scene,
- Set the product to manual mode and set the shutters or blinds to the desired status by pressing the associated push-buttons,
- Return to Auto mode,
- Save the scene using a long push for more than 5 seconds on the push-button that triggers the scene,
- Memorisation is signalled by the inversion of the concerned output status for 3 sec.

Links

- **Scene:** the scene is activated by pressing the push-button.



Closing input contact: scene activation.

Opening input contact: no action.

Note: At the time the connection is made, the scene number must be defined for the closing input contact.

Select function

Outputs selected : 1

TYBS692F - 1 - 1

Scene

1

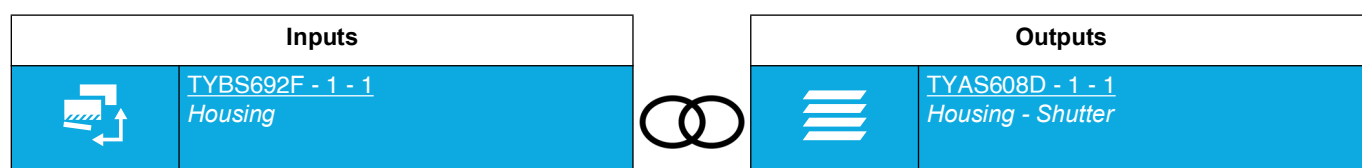
Scene number 1:

1

Link

Cancel

- **Scene switch:** the scene is activated according to the closing or opening input contact.



Closing input contact: scene activation 1.
Opening input contact: scene activation 2.

Note: At the time the connection is made, the scene number must be defined for the closing and opening input contact.

Select function

Outputs selected : 1

TYBS692F - 1 - 1

Scene switch

1

Scene number 1:

1

Scene number 2:

2


Link

Cancel


4. Appendix

4.1 Technical data


- TYBS602F

KNX Medium	TP1-256
Supply voltage KNX	21...32 V  SELV
Current consumption KNX	typ. 5 mA
Minimum switching current 230 V~	10 mA
Breaking capacity	μ 6 A AC1 230/240 V~
Power dissipation	max. 0.6 W
Circuit-breaker	10 A
Surge voltage	4 kV
Maximum switching cycle rate at full load	20 switching cycle/min.
Interlock time for changing direction of travel	software-dependent
Operating altitude	max. 2000 m
Degree of contamination	2
Operating temperature	-5° ... +45 °C
Dimension	44 x 43 x 22,5 mm

- TYAS608D

KNX Medium	TP1-256
Supply voltage KNX	21...32 V  SELV
Auxiliary voltage	230 V~ +10/-15%; 50/60 Hz
	240 V~ +/-6%; 50/60 Hz
Breaking capacity	μ 16 A AC1 230/240 V~
Circuit-breaker	10 A
Surge voltage	4 kV
Interlock time for changing direction of travel	software-dependent
Operating altitude	max. 2000 m
Degree of contamination	2
Maximum switching cycle rate at full load	20 switching cycle/min.
Operating temperature	5° ... +45 °C
Current consumption KNX	typ. 2 mA
Dimension	6 TE, 6 x 17.5 mm
Power dissipation	max. 2 W

- TYMS616D / TYMS620D

KNX Medium	TP1-256
Supply voltage KNX	21...32 V  SELV
Breaking capacity	μ 16 A AC1 230/240 V~
Minimum switching current 230 V AC	100 mA
Circuit-breaker	16 A
Surge voltage	4 kV
Interlock time for changing direction of travel	software-dependent
Operating altitude	max. 2000 m
Degree of contamination	2
Maximum switching cycle rate at full load	6 switching cycle/min.
Operating temperature	5° ... +45 °C
Current consumption KNX	typ. 5 mA
Dimension TYMS616D	8 TE, 8 x 17.5 mm
Power loss TYMS616D	max. 20 W
Maximum permissible current TYMS616D	max. 176 A
Dimension TYMS620D	10 TE, 10 x 17.5 mm
Power loss TYMS620D	max. 25 W
Maximum permissible current TYMS620D	max. 200 A

4.2 Characteristics

Device	TYBS602F	TYAS608D	TYMS616D	TYMS620D
Max. number of group addresses	254	254	500	500
Max. number of allocations	255	255	500	500
Objects	73	193	353	433



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