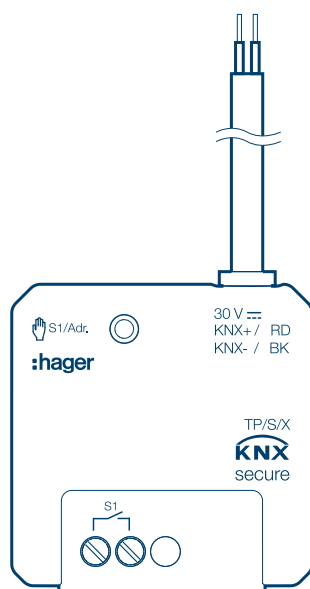


KNX Building system technology Module switch actuator

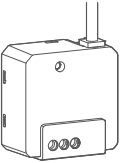





Output module 1x 10A /230V~, flush mounted,
KNX Secure
TYBS601B



:hager

Product overview

	Reference no.	Product designation	Application software ref.	TP device	Radio device
	TYBS601B	Output module 1x 10A /230V~, flush mounted, KNX Secure			

Subject to technical changes!

Content

1. General	3
1.1 About this guide	3
1.2 Easy tool software appearance	3
2. General Description	4
2.1 Installation of the device	4
2.1.1 Overview presentation	4
2.1.2 Description of the device	5
2.1.3 Physical addressing	5
2.1.4 Connection	5
2.2 Function modules of the application	6
3. Programming by Easy Tool	8
3.1 Product overview	8
3.2 Product functionalities	10
3.2.1 ON/OFF	10
3.2.2 Timer	11
3.2.3 Priority	13
3.2.4 Automatic control	15
3.2.5 Central ON/OFF switch	17
3.2.6 Load shedding	18
3.2.7 Scene	19
4. Appendix	22
4.1 Specifications	22
4.2 Characteristics	22

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 :

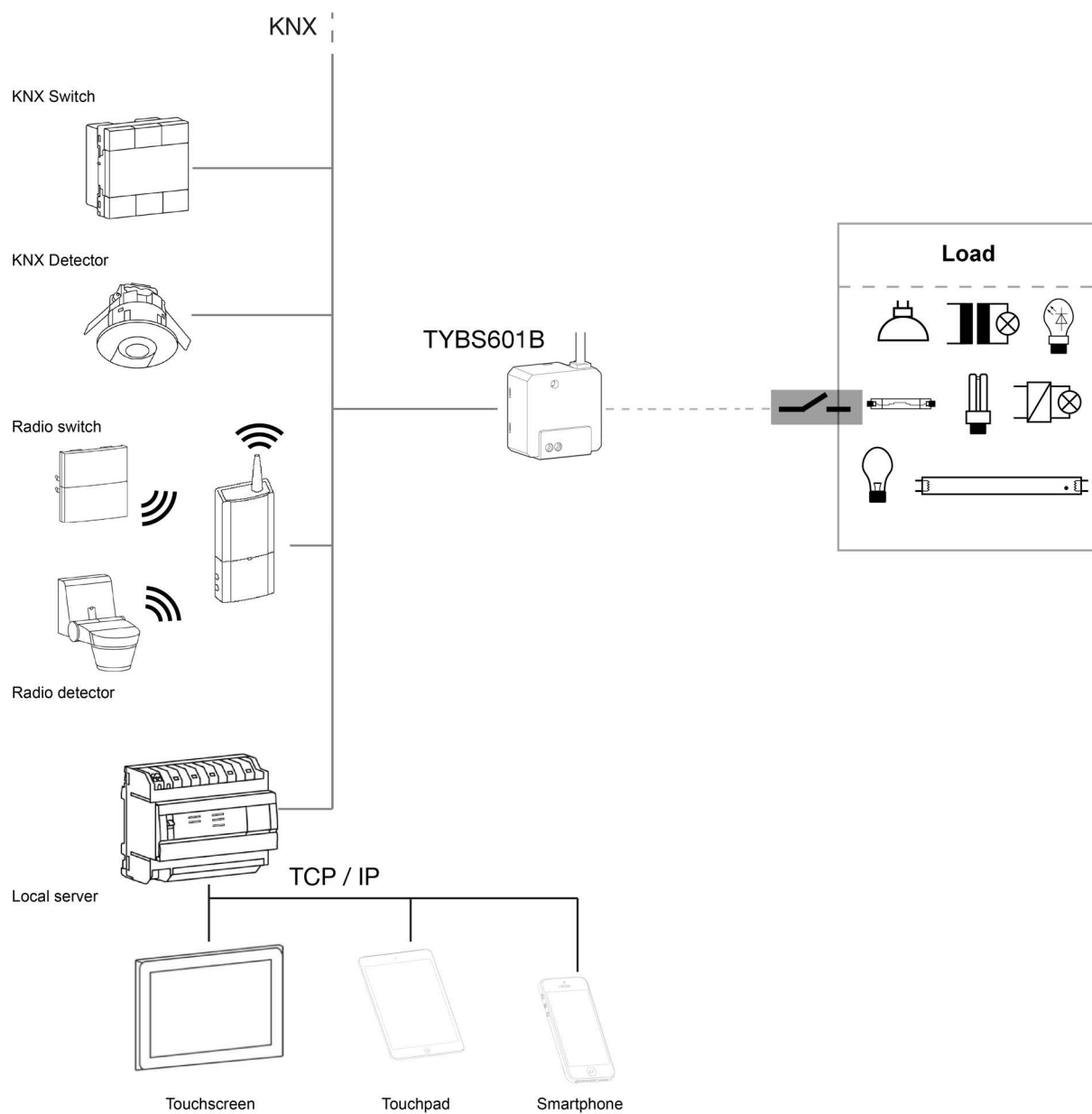
- TJA470: Domovea expert
- TJA670: Domovea basic
- TJA665: Konfigurationsserver KNX easy

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

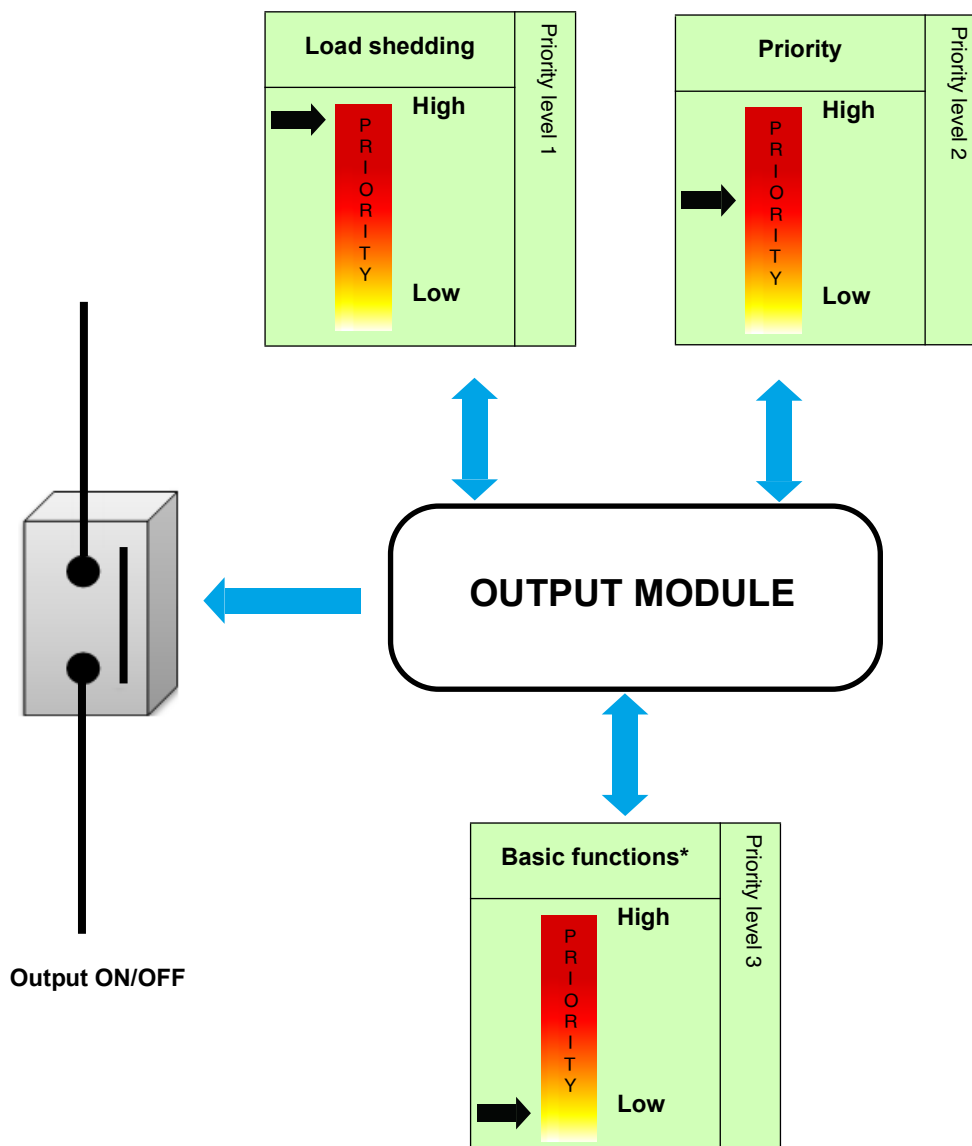
2. General Description

2.1 Installation of the device

2.1.1 Overview presentation



2.2 Function modules of the application



* 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.

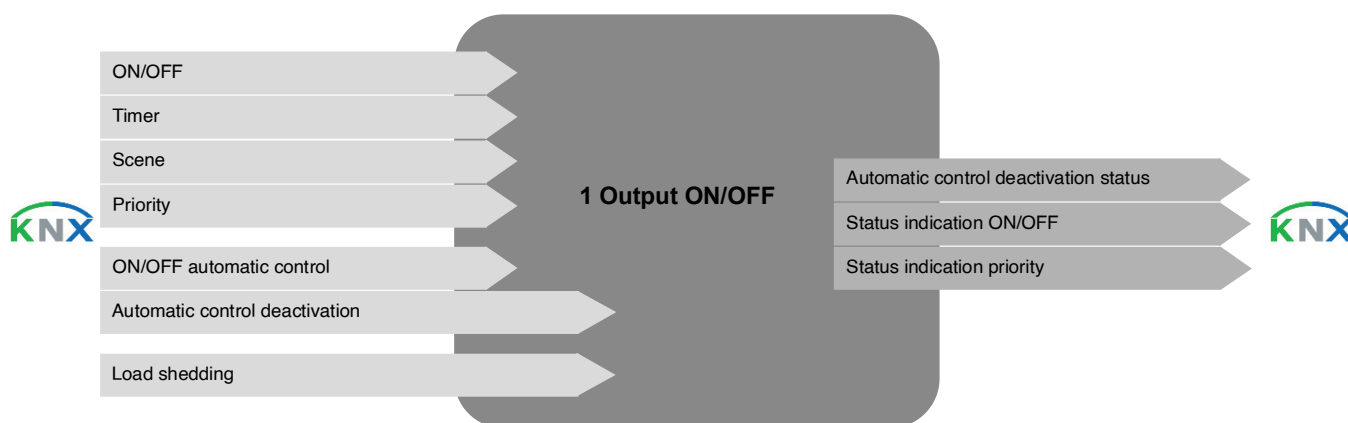
A scene is activated by receipt of a 1-byte command.

Each output can be included in 64 different scenes.

■ Status indication

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

Communication objects





3. Programming by Easy Tool

3.1 Product overview


■ TYBS601B: 1 flush mounted output 10A twisted pair

Product view:

Product		1 Output	
Name:	TYBS601B - 1-fold switch actuator 10A 230V AC, embedded	1	 TYBS601B - 1 - 1 House - Lighting
Use:	Lighting		
Place:	House		
Electrical tracking:	TYBS601B - 1		
 Product : TYBS601B 1-fold switch actuator 10A 230V AC, embedded			

View of channels:

0 Input

1 Output	
	TYBS601B - 1 - 1 Housing - Lighting

■ Channel settings

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

TYBS601B - 1 - 1	
Timer duration:	2 min
Cut-OFF pre-warning:	30 s

■ 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.

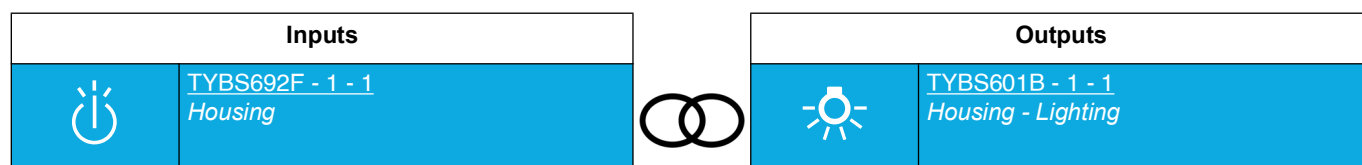
	Increase dimming/ON
	Decrease dimming/OFF
	Increase/decrease dimming

3.2 Product functionalities

3.2.1 ON/OFF

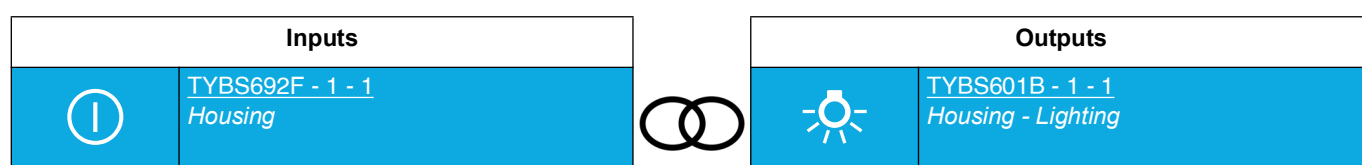
An output can be switched on or off using the ON/OFF function. The command can come from switches, buttons or other control inputs.

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



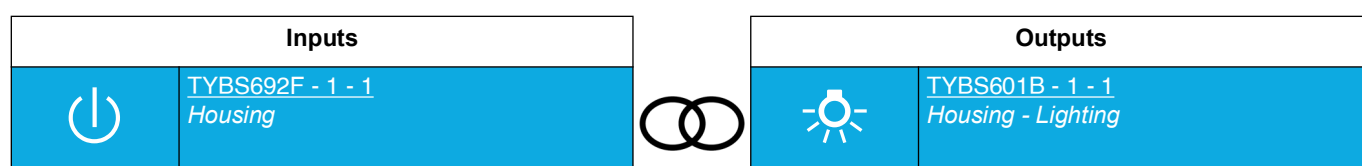
Closing input contact: turn on the light.
Opening input contact: no action.

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



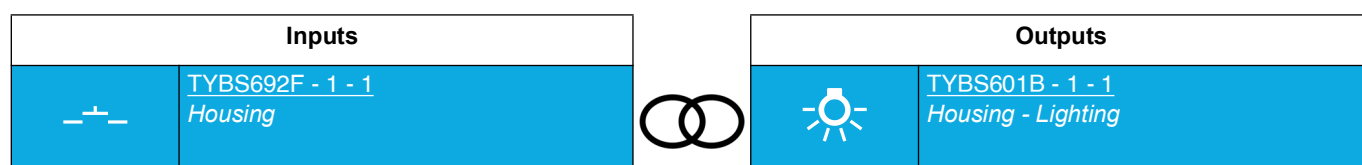
Closing input contact: turns off the light.
Opening input contact: no action.

- **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

3.2.2 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

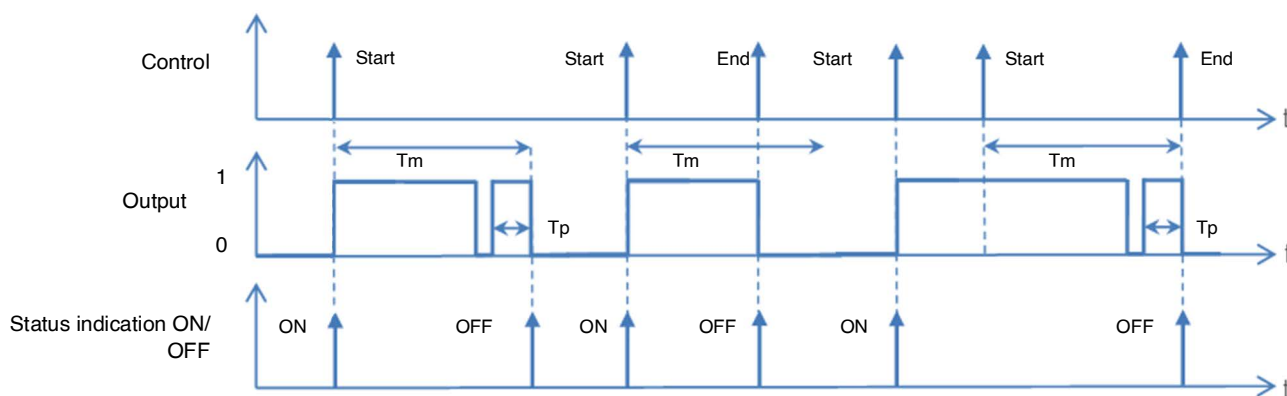
Cut-OFF pre-warning:

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:



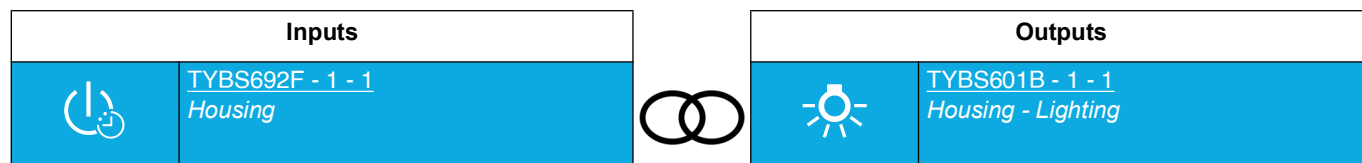
T_m : Timer duration
 T_p : Pre-warning lead time

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 ▼

1 

Timer duration:

2 min ▼

Link

Cancel

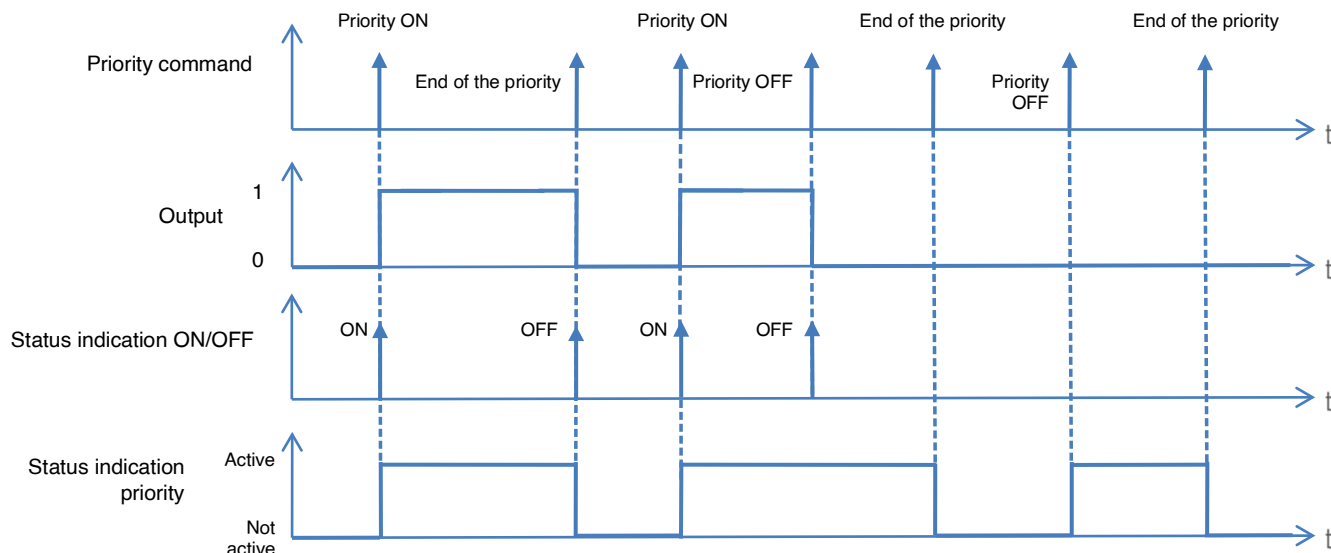
3.2.3 Priority

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

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

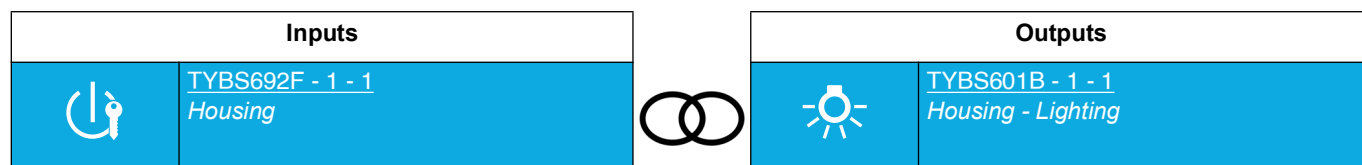
At the end of the priority, the output returns to the status it had before the priority (Memorisation function).

Operating principle:



■ Links

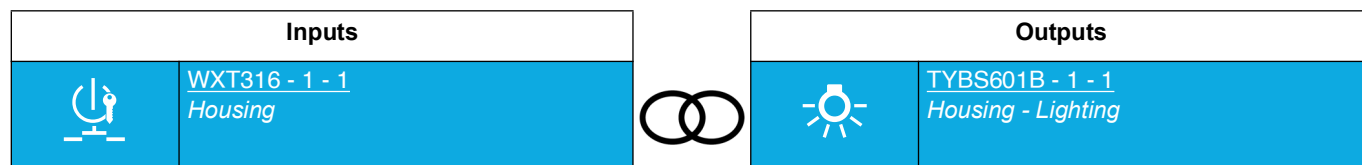
- **Priority ON**: allows forcing and keeping the lighting circuit on.



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.



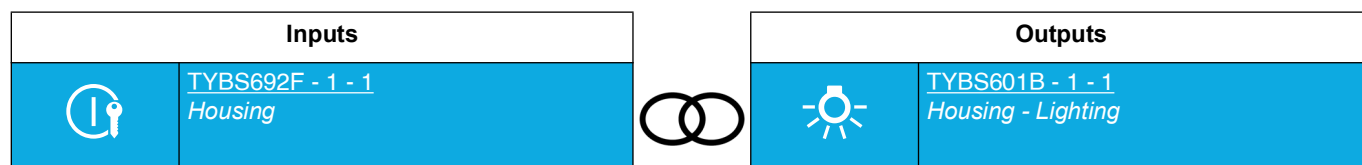
Closing input contact: turn on the light.

Opening input contact: no action.

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

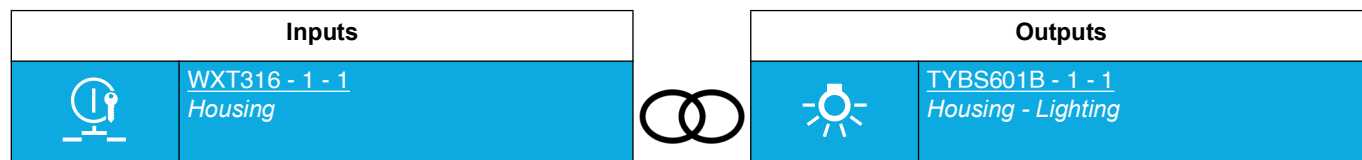
Note: This function is only available with push-button input products with LEDs indicating status.

- **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.

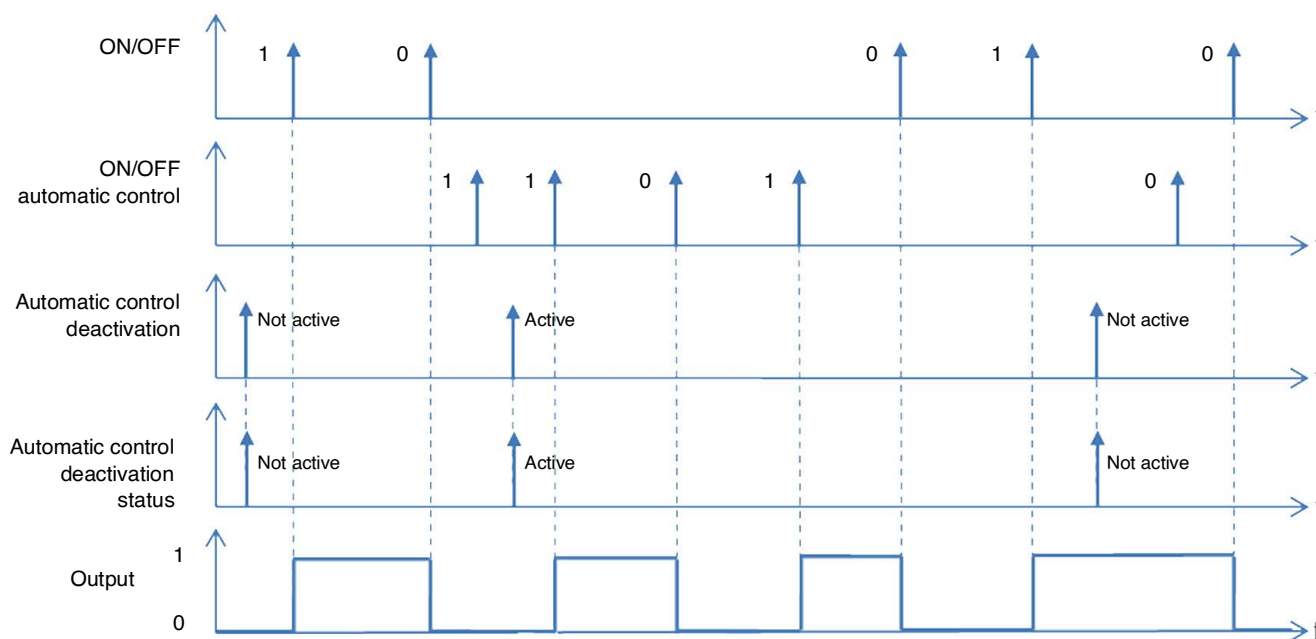
Note: This function is only available with push-button input products with LEDs indicating status.

3.2.4 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.

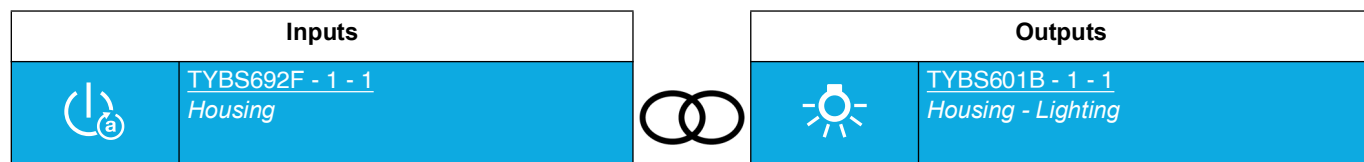
Example: when an output is controlled by a button and in parallel by an automatic control (timer, twilight switch, weather station, etc.) the automatic control can be deactivated for reasons of comfort (vacations, public holidays, etc.).

Operating principle:



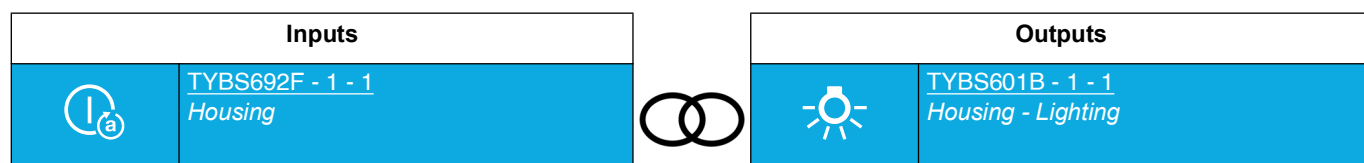
■ Links

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



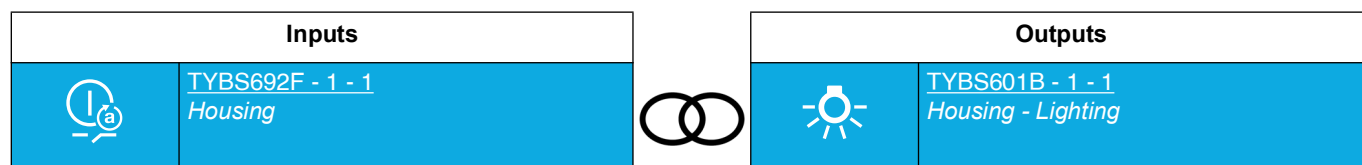
Closing input contact: turn on the light.
Opening input contact: no action.

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



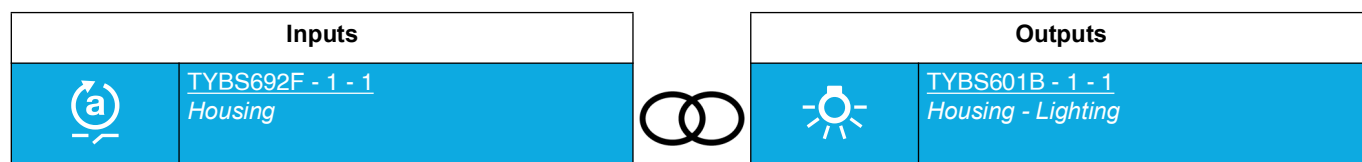
Closing input contact: turns off the light.
Opening input contact: no action.

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



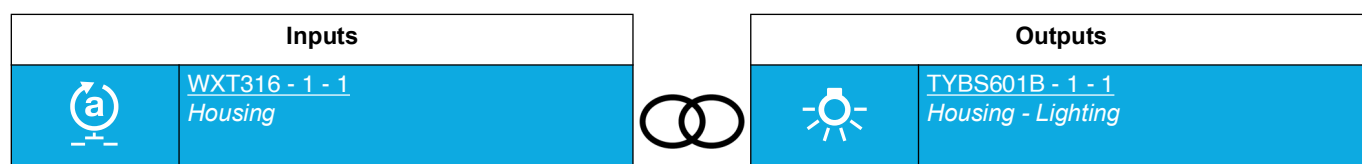
Closing input contact: turns on the light at the last saved level.
Opening input contact: turns off the light.

- **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.



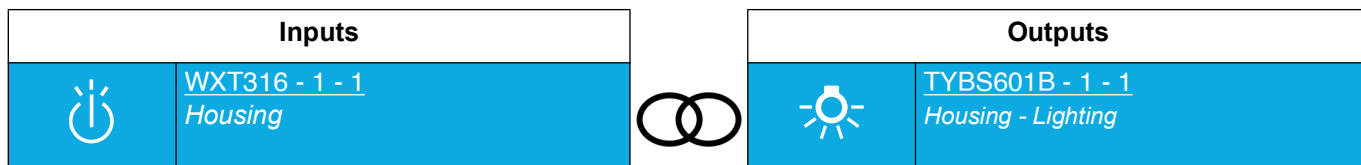
Closing input contact: deactivated automatic control.
Opening input contact: no action.
A second closing input contact triggers activation of the automatic control.

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

3.2.5 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.

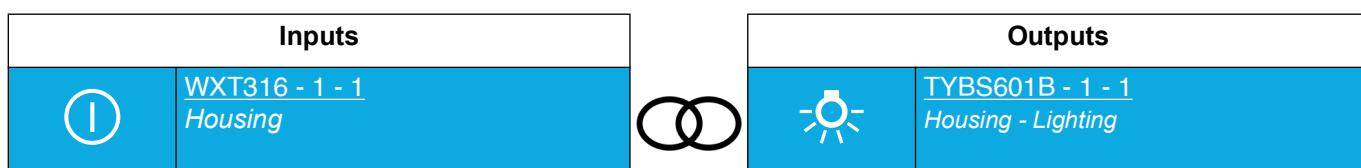
- **Central ON:** switches the lighting circuit on.



Closing input contact: turns on the light

Opening input contact: no action

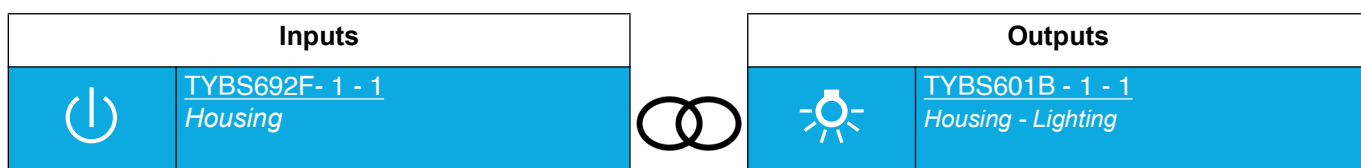
- **Central OFF:** switches the lighting circuit off.



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

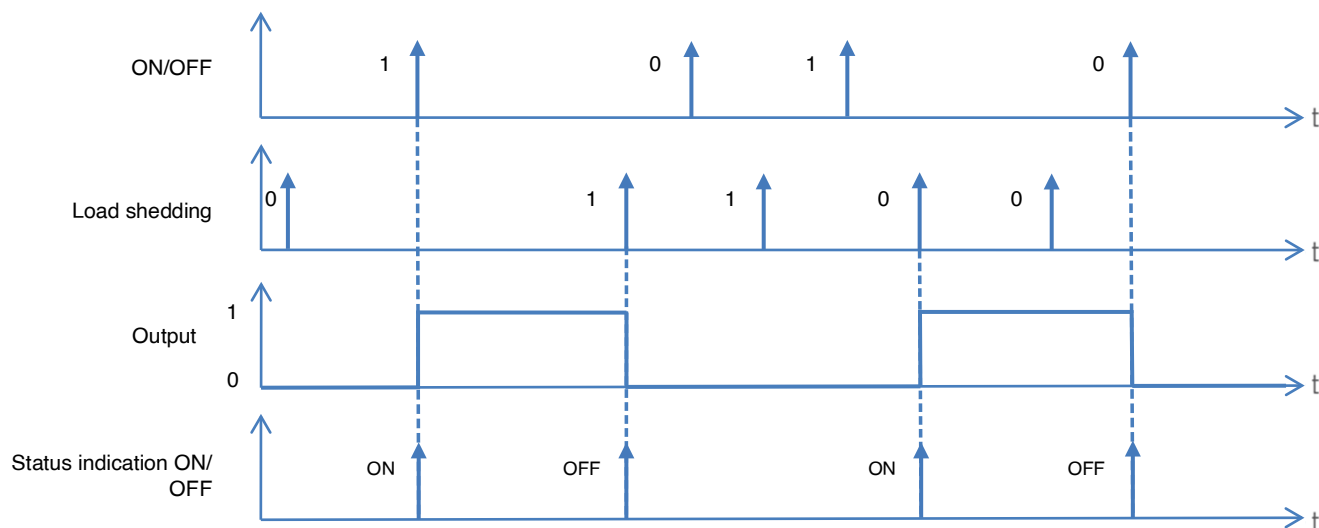
3.2.6 Load shedding

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

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

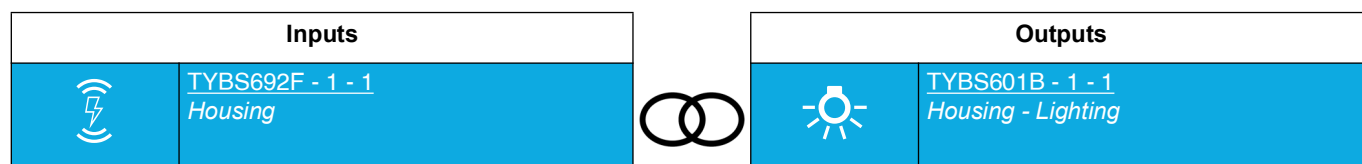
This command has the highest priority. No other command is taken into account if the mode is active. The status of the output is memorised but not applied. At the end of load shedding, the output is switched to the theoretical status without Load shedding (memorisation).

Example: Load shedding function



■ Links

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



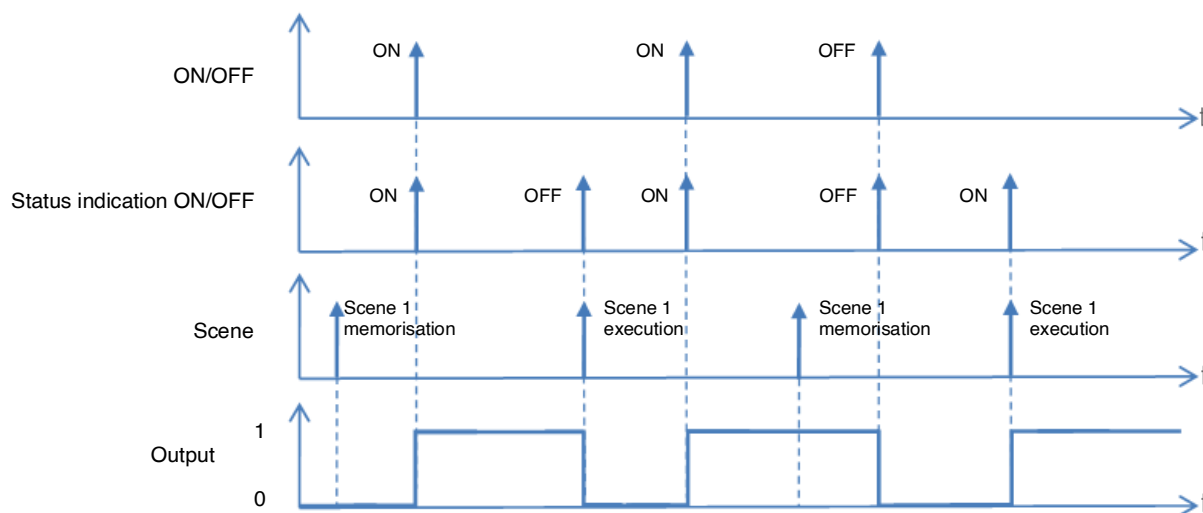
Closing input contact: priority of the output to off.

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

3.2.7 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

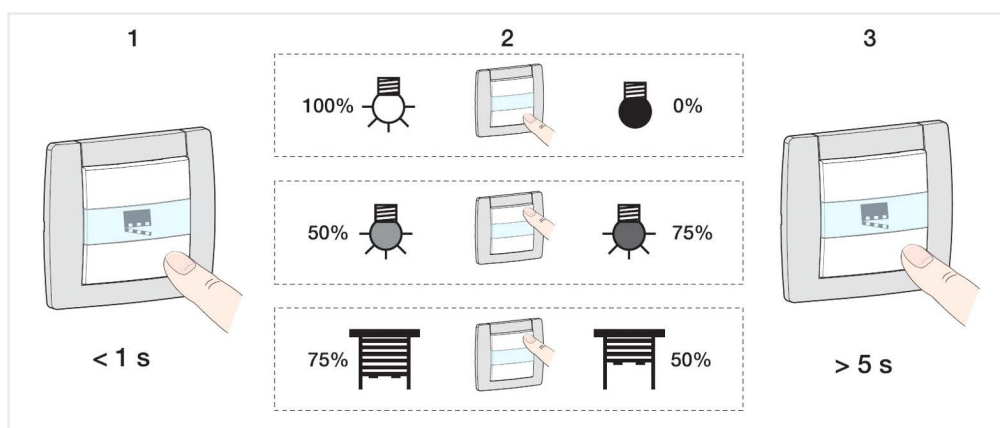
This process is used to change and store a scene. For example, by locally pressing the key in the room or by emission of the values from a visualization.

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.



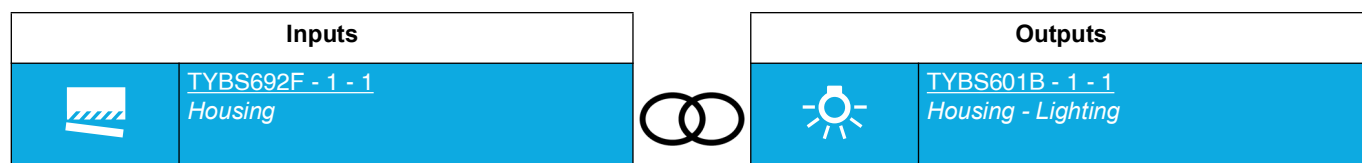
Product learning and memorisation

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

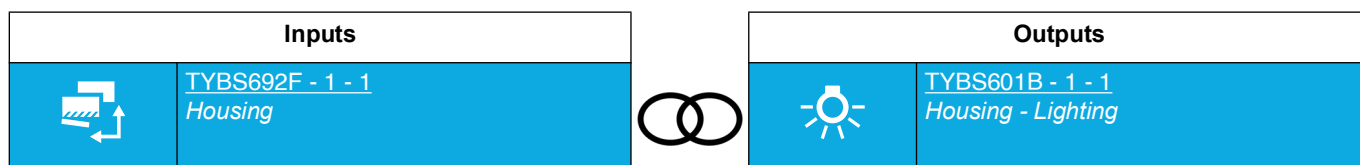
1

Scene number 1:

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

4. Appendix

4.1 Specifications

- TYBS601B

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	μ10 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

4.2 Characteristics

Device	TYBS601B
Max. number of group addresses	254
Max. number of allocations	255
Objects	34



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