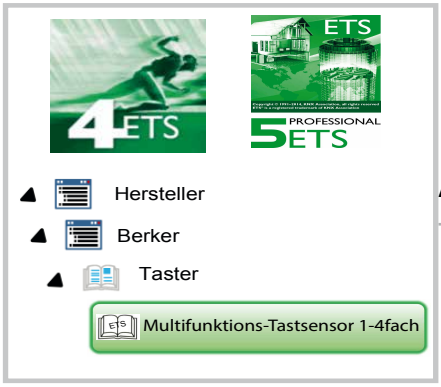


Application description

1-fold KNX multifunctional push-button
2-fold KNX multifunctional push-button
3-fold KNX multifunctional push-button
4-fold KNX multifunctional push-button

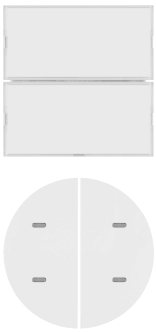
	Order number	Product designation	Application programme	TP product Radio product
	8014 13 xx 8016 17 xx 8016 18 xx	1-fold KNX multifunctional push-button	S801xxxx V1.0	▬
	8014 23 xx 8016 27 xx 8016 28 xx	2-fold KNX multifunctional push-button	S801xxxx V1.0	▬
	8014 33 xx 8016 37 xx	3-fold KNX multifunctional push-button	S801xxxx V1.0	▬
	8014 43 xx 8016 47 xx	4-fold KNX multifunctional push-button	S801xxxx V1.0	▬

Table of contents

1. General

1.1 General information about this application description

This document describes the operation and parameterisation of KNX devices with the aid of the Engineering Tool Software ETS.

The devices are parameterised by the ETS and the required settings are made during the first installation.

1.2 ETS Programmeming software

The application programmemes are compatible with ETS5 or ETS4 and are always available in their latest version on our Internet website.

ETS version	File extension of compatible products	File extension of compatible projects
ETS 4 (v 4.18 and higher)	*.knxprod or *.vd5	*.knxproj
ETS 5 (v 5.04 and higher)	*.knxprod	*.knxproj

Table 1: ETS Software version

1.2.1 ETS Application designation

Application	Article order number
S801xxxxx0 V1.0	1-fold KNX multifunctional push-button
S801xxxxx0 V1.0	2-fold KNX multifunctional push-button
S801xxxxx0 V1.0	3-fold KNX multifunctional push-button
S801xxxxx0 V1.0	4-fold KNX multifunctional push-button

Table 2: ETS Application designations

1.3 Start-up

The start-up of the push-buttons primarily refers to the programmeming of the physical address and the application data by the ETS Engineering Tool Software.

1.3.1 Physical address

The ETS assigns the physical address. The bus application unit has a programmeming button for assigning the physical address; the button is also fitted with an integrated red LED as a display. The red programmeming LED lights up by pressing the programmeming button. After assignment of the physical address by the ETS, the programmeming LED goes out.

To check whether the bus voltage is present, press the programmeming button briefly, the red LED lights up. Press the button once again to exit the programmeming mode.

Example:

- Activate programmeming mode → Actuate the programmeming button on the bus application unit.

  Programmeming LED flashes red.
- The ETS starts downloading the physical address.

  The programmeming mode is automatically cancelled once the download is complete → The programmeming LED is switched off.
- Label bus application unit with the physical address.

ⓘ If a device in an existing system is to be programmemed, only one device can be in programmeming mode.

1.3.2 Application programme

The application software can be loaded on to the bus application unit directly when assigning the physical address, for example. If this has not taken place, it can also be programmemed at a later date.

The application programme is downloaded directly on to the bus application unit and is also possible without the user module being plugged in.

ⓘ Once the application programme has downloaded, the plugged-in user module and the bus application unit are synchronised. This is indicated by all the status LEDs (blue) flashing.

1.3.3 Occurrence in the event of an error

If the plugged-in user module is not compatible with the application programme loaded on the bus application unit, after synchronisation (all status LEDs flashing blue) the status LEDs flash "red". If this occurs, the device cannot function.

Solution:

– Download the corresponding application programme again
– Connect the correct user module version to the bus application unit

2. Functional and device description

2.1 Device overview

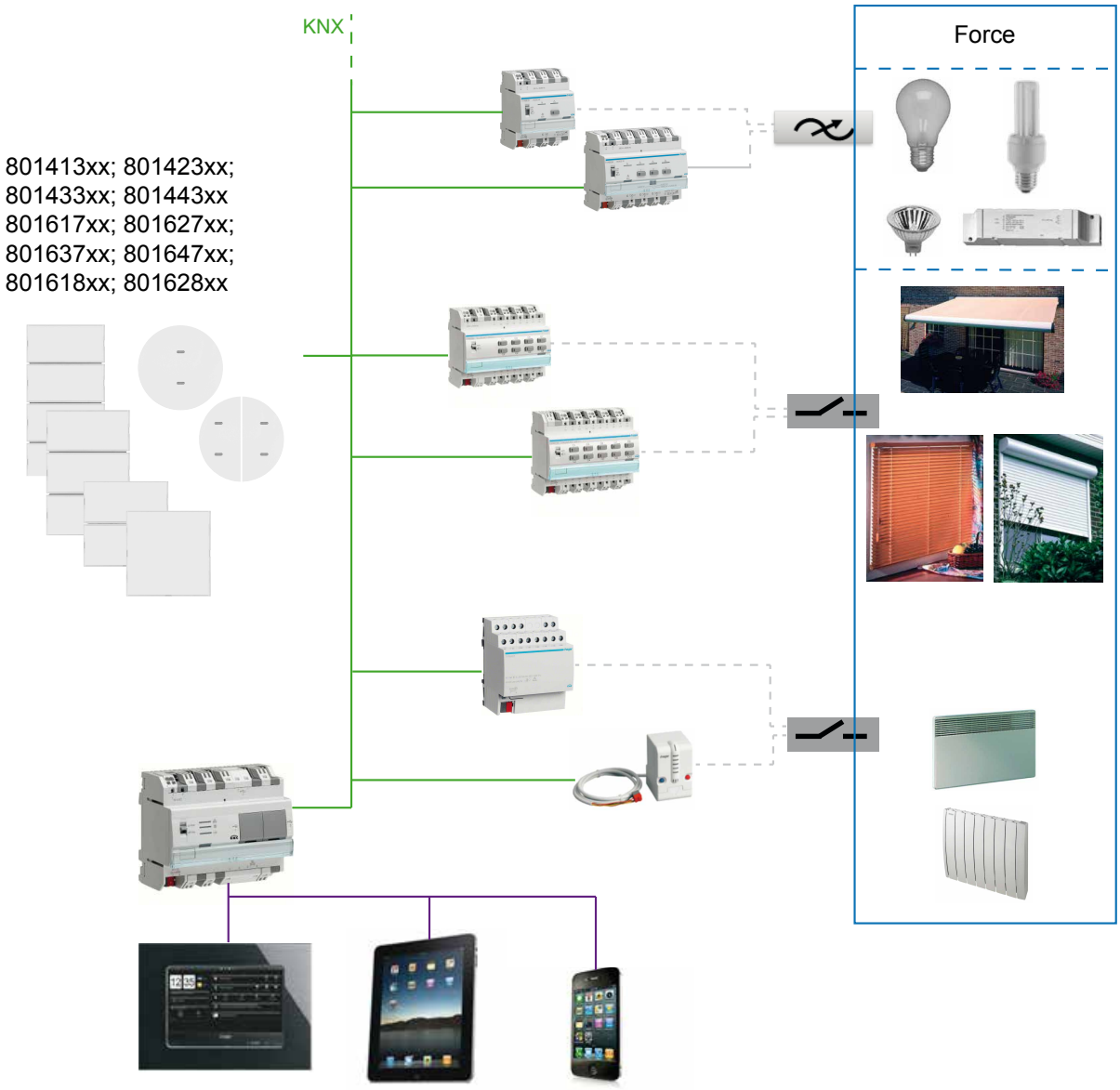


Figure 1: Device overview

2.2 Functional description

The 1-4-fold push-button is only functional with a flush-mounted bus application unit (8004 00 x1). The rockers/buttons can be assigned the following functions: ON/OFF, dimming, shutter/ blind, light scene activation, value, priority and thermostat extension. The assignment of the various functions is freely selectable for each rocker/button and is defined by parameterisation in the ETS. Depending on the parameterised functions, telegrams that trigger ON/OFF, dimming, blind/shutter functions, call up or save light scenes and set dimming, brightness or temperature values in the corresponding actuators are transmitted to the KNX system bus when rockers/buttons are pressed.

The following functions are formulated for the terms "rocker" and "individual push-button(s)" for the devices listed.

2.2.1 Operating concept

The function of the individual control rockers depends on the programmeming of the push-button. Depending on the version, devices are fitted with up to eight pressing points.
Bild 2 shows a 2-fold push-button with a total of four pressing points. Depending on the parameterisation, the rocker can be configured to function as a "whole" or as a button with a "left and right rocker side". The difference between a rocker and button is presented and described below.

Rocker

The entire rocker (1) is designated as a rocker. Both the left rocker side (2) and the right rocker side (3) work together to carry out one function (shutter function, for example: top rocker side UP, bottom rocker side DOWN).

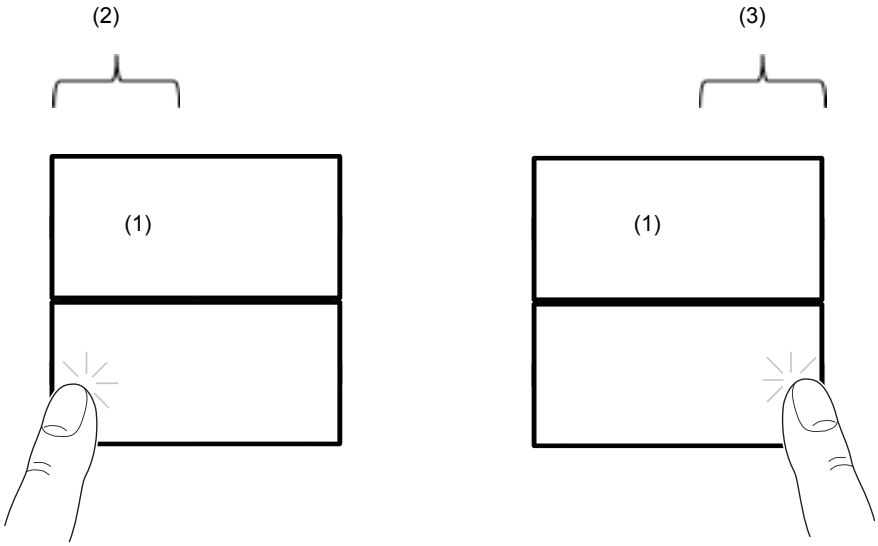


Figure 2: "2-fold rocker - S/B/K/Q" rocker division

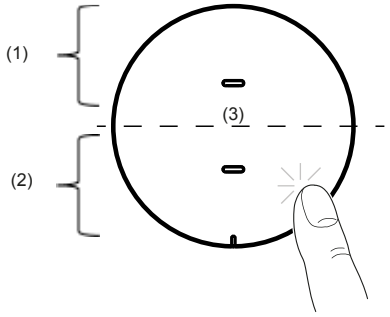


Figure 3: "1-fold rocker - R" rocker division

Button

The left (4) or right (5) side of the rocker are designated as a button. The respective buttons can work independently of each other (for example, left button area → shutter no. 1 UP/DOWN and right button area → light ON/OFF) but can also work together in a single function (see rocker example).

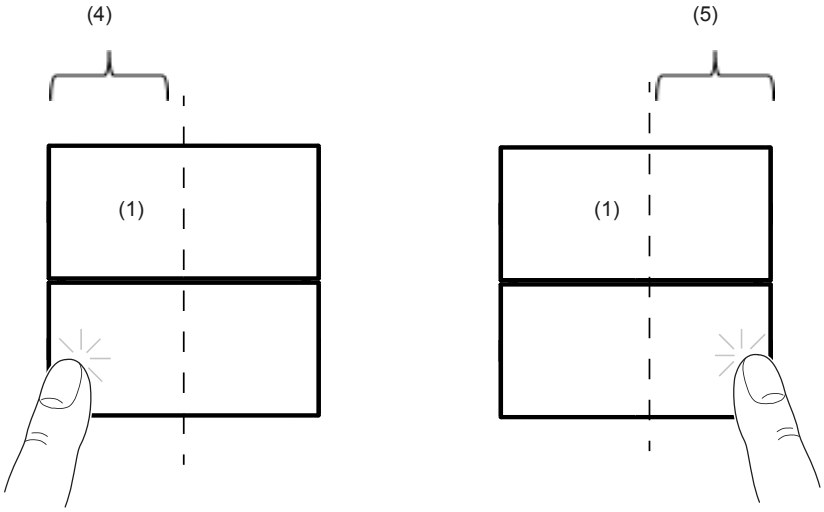


Figure 4: "2-fold rocker - S/B/K/Q" independent push-button division

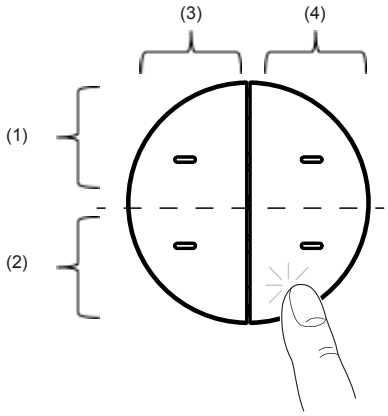


Figure 5: "2-fold rocker - R" independent push-button division

Operating instructions

The device differentiates between short and long touches.

– Short touch operation
  Switch lighting
  Shutter/blind step operation
  Operating mode changeover, etc.
  Operating channel A under 2-channel mode
– Long touch operation
  Dimming the lighting
  Move command (move) roller shutter/blind
  Saving of a scene
  Operating channel B under 2-channel mode

2.2.2 Range of functions

– Button surfaces can be configured as either a rocker or as independent buttons.
– Each rocker or independent button can be used for the following functions: ON/OFF, dimming, shutter/blind control, 1-byte value transmitter, 2-byte value transmitter, scene extension, 2-channel operation, room temperature control and thermostat extension.
– 2-channel operation: The operation can be set for each button by two independent channels. Thus, a maximum of only telegrams can be transmitted to the bus by one operating procedure. The channels can be parameterised independently to the functions switching, value transmitter (1-byte, 2-byte), brightness value transmitter (2-byte) or temperature value transmitter (2-byte).
– ON/OFF function: the following settings are possible for each button: response when the rocker/button is pressed and/or released, switching on, switching off, not active.
– The following adjustments are possible when dimming: times for short and long touches, dimming in different steps, transmitting a stop telegram at the end of the touch, transmitting dimming values.
– The following adjustments are possible during blind control: up/down, position (slat position / shutter/blind position), safety run
– The following settings are possible in the 1-byte and 2-byte value transmitter function: selection of the value range (0-100 %, 0-255, 0-65535, 0-1500 Lux, 0-40°C), value when pressed.
– The following setting are possible in the scene function: call-up of a scene number (1–64), saving upon long key-press and emission time delay.
– When the button is being used as a control extension, the following adjustments are possible: defined selection of an operating mode, presence state changeover, heating/ cooling-changeover.

- Each button has an RGB status LED.
- The following settings are available for the activation of the status LED: permanently ON/OFF, actuation display regarding button function, separate communication object (permanent/flashing and inverted), comparison value for signed and unsigned 1-byte and 2-byte values.
- The direction LED can be activated by a communication object so that it is either on or off permanently, or blinking.
- Lock-up must be configured in the general parameter settings. Lock-up can then be activated or deactivated on an individual basis for each button or rocker.
- When using the room temperature measurement function, the device can measure, process and transmit the room temperature to the bus by means of an external temperature sensor.

2.3 Functional overview

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

Not active

The "Not active" function means that no function is assigned to the rocker/button; the rocker/button is disabled.

Toggle switch

The "Toggle switch" function switches on the lighting upon the first key-press and switches it off again upon the second.

Switching

The "ON/OFF" function enables the push-button (lighting circuits, for example) to be switched on or off (ON, OFF, ON/OFF, for example).

Dimming

The "Dimming" function enables the push-button to increase and decrease the dimming in lighting circuits.

This function can either be used as a rocker (for example, left side of the rocker dims up, right side dims down) or as a button (first key-press dims up, second dims down (during toggle mode)).

Shutter/blind

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

This function can either be used as a rocker (for example, left side of the rocker OPENS blind, left side CLOSES blind) or as a button (first key-press OPENS blind, second CLOSES blind (during toggle mode)).

Timer (only in the "independent push-button" using mode)

The "Timer" function enables the actuator output to be switched on or off for an adjustable duration. The switching time can be interrupted before the delay time elapses. An adjustable switch-off warning signals the end of the delay time by inverting the output state for 1 s.

Value 1 byte/2 bytes

The value transmitter (1 byte) function allows values from 0 to 255 or 0 to 100 % to be transmitted to a dim actuator, for example.

The value transmitter (2 bytes) function allows values from 0 to 65535, brightness values from 0 to 1000 lx or temperature values from 0 to 40°C to be configured.

Thermostat extension

When being used as a control extension, the following parameter settings can be set/selected for each button or rocker. Override setpoint to a defined operating mode, setpoint selection, heating/cooling changeover and presence detection.

Mandatory control

The "Priority" function enables a precisely defined state (2 bits) to be specified or enables the function to impose a defined state.

Scene

When functioning as a scene extension, a light scene can be called up in a KNX device.

2-channel mode

The "**2-channel mode**" function allows different functions to be configured for two different communication objects (channel A, channel B) using the same button in a time-dependent manner.

Step switch

The "Stepping switch" function (1 byte) allows step values from 0 to 255, percentage values from 0 to 100 % and scenes 1 to 64 to be selected and switched for up to 7 levels.

Deactivate automatic

This function can be used to interrupt and deactivate ongoing operations (time-controlled lighting).

ⓘ This function must be configured in our TXA... and TYA... actuators.

3. General, "Parameters"

The following sections describe the configuration of the parameters for 1 to 4-fold push-button devices. The function of the different devices only differ in the number of channels/ buttons. For this reason, only the first channel or first button/button pair (rocker) are ever described.

Global parameter settings for the entire device (i.e. for all buttons/rockers/channels) are made under "General".

ETS Engineering Tool Software (version ETS4.x / ETS5.x) is used for parameterisation and start-up.

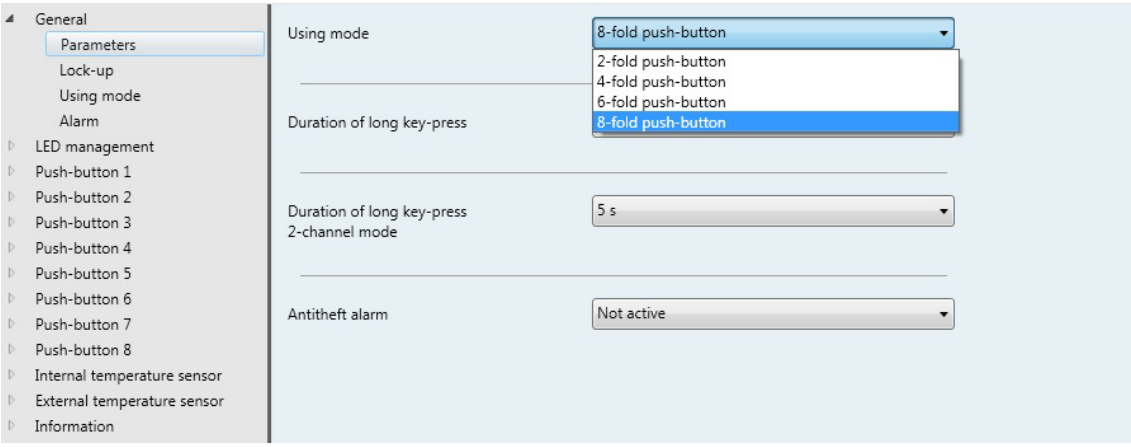


Figure 6: General, "Parameters"

The device used and the choice of push-button version must match; i.e. if the selected push-button version is incorrect, the application software cannot be uploaded to the device.

Parameters	Description	Value
Operating concept	This parameter determines the device push-button version.	**1-fold push-button*** 2-fold push-button 3-fold push-button 4-fold push-button
Time for long key-press (TD) (dimming, shutter/blind)	This parameter defines the moment from when a long push-button action is detected. This distinction is required in the "Dimming" function, for example, to switch on (short TD) or dim (long TD) the lighting.	400 ms - **500 ms** *- 1 s
Time for long key-press (TD) (2-channel mode)	This parameter defines the moment from when a long key-press is detected for the 2-channel mode.	500 ms - **5 s*** - 10 s
Antitheft alarm	When the device is disconnected from the flush-mounted bus application unit, an alarm can be transmitted via the "Antitheft alarm" object in the form of an ON/ OFF telegram or a value telegram.	**Not active** * 1 bit 1 byte

Antitheft alarm 1 bit [1]	When "Antitheft alarm 1 bit" is selected, a 1-bit value (0 or 1) is transmitted when device is disconnected.	**ON = 1*** ON = 0
Antitheft alarm 1 byte [2]	When "Antitheft alarm 1 byte" is selected, a 1-byte value is transmitted when the device is disconnected.	**0*** ... 255
Periodical emission of antitheft alarm [3]	This parameter allows the periodical emission time of the antitheft alarm to be set.	1 min ... **5 min** *- 30 min

Table 3: General, "Parameters"

No.	Name	Object function	Length	Data type
0	General	Antitheft alarm	1 bits	1.005 DPT_ON/OFF
1	General	Antitheft alarm	1 byte	5.010 DPT_Counting pulse (0-255) [2]

[1] *This function parameter and the associated communication objects are only visible when the 1 bit parameter in "Antitheft alarm" is selected.*

[2] *This function parameter and the associated communication objects are only visible when the 1 byte parameter in "Antitheft alarm" is selected.*Default value.

[3] This function parameter is visible when either the parameter 1 bit or 1 byte is selected under "Antitheft alarm".

* Default value

3.1 Blocking function

In the following parameter window, the respective functions and selection options of the "Lock-up" function are displayed and configured for the "rocker" and "button" using modes.

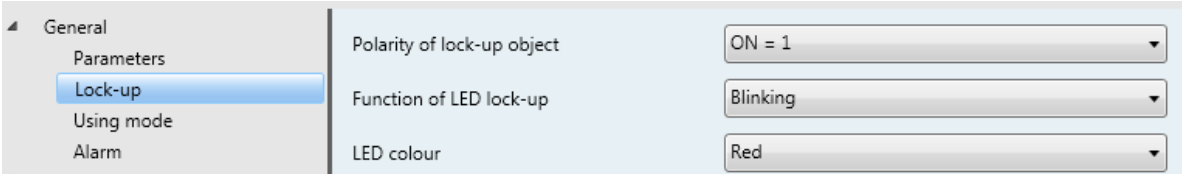


Figure 7: General "Lock-up"

Parameters	Description	Value
Polarity of lock-up object	This parameter defines at which value the blocking function is activated.	**ON = 1*** ON = 0
Function of LED lock-up	This parameter sets the function of the LED when lock-up is active.	**Off *** On Blinking
Colour of LED [1]	This parameter sets the colour of the LED when lock-up is active.	Off **Red *** Green Blue Red + green Red + blue Blue + green

Table 4: General "Lock-up"

No.	Name	Object function	Length	Data type
4	General	Blocking function	1 bits	1.011 DPT_Status

[1] *This parameter is only visible when either "On" or "Blinking" is selected under "Function of LED lock-up".*

The device has a lock-up function that can be used to lock independent buttons or rockers. To activate the lock-up function for each button/rocker, the "Lock-up" function must be explicitly activated (ticked) in the "Function" parameter branch for each button/rocker.

After bus voltage recovery, a lock-up remains active if it was activated before the bus voltage failed. The lock-up is always deactivated after a programmeming process by the ETS.

The polarity of the lock-up object can be parameterised.

If the polarity of the lock-up object is set to "Inverted (ON = 0)", the push-button is not immediately locked in the event of bus voltage recovery or after a download if no lock-up was switched on before the bus voltage failed. In such cases, the lock-up is only activated in the event of an object update (value = "0") for the lock-up object!

* Default value

3.2 Parameter „Bedienkonzept“

In the following parameter window, the type of the using mode of the button pairs is set and parameterised.

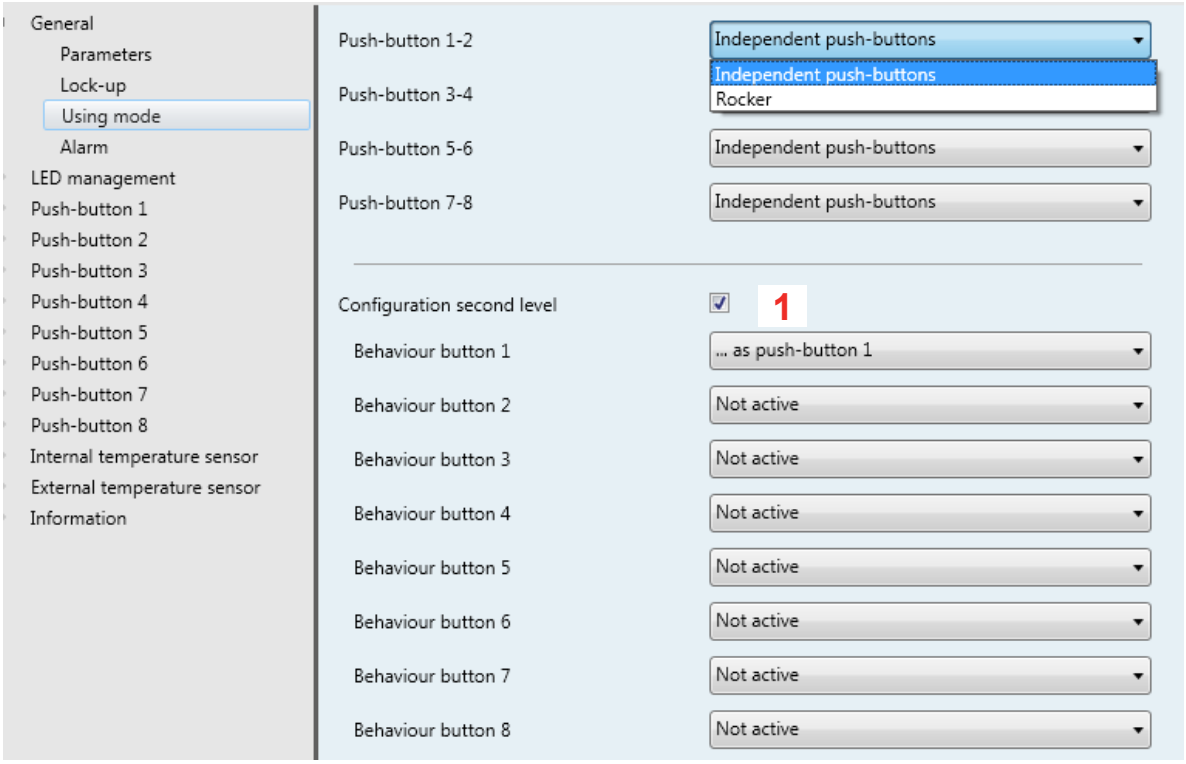


Figure 8: Parameter „Bedienkonzept“

The distinction between the "independent push-button" or "rocker" using mode must be made for the button pairs.

The button pair can be operated in the "independent push-button" function; i.e. each individual independent button can be assigned an individual function (for example, left side of the rocker (button 1) for light ON/OFF, right side of the rocker (button 2) for blind UP/DOWN).

The button pair can also be operated in the "rocker" function; i.e. the rocker pair work together to carry out a joint function (for example, left rocker side for light ON, right rocker side for light OFF).

Parameters	Description	Value
Push-button 1-2	This parameter can be used to configure the function of the buttons/rocker.	**Independent push-buttons** * Rocker
Push-button 3-4	This parameter can be used to configure the function of the buttons/rocker.	**Independent push-buttons** * Rocker
Push-button 5-6	This parameter can be used to configure the function of the buttons/rocker.	**Independent push-buttons** * Rocker
Push-button 7-8	This parameter can be used to configure the function of the buttons/rocker.	**Independent push-buttons** * Rocker

Table 5: Parameter „Bedienkonzept“

* Default value

3.3 Configuration second operating level

A second operating level can also be created for the device under "Using mode" (Bild 8, tick box 1).

Parameters	Description	Value
Behaviour button 1	This parameter assigns the behaviour of push-button x from operating level 1 to push-button 1 in operating level 2.	**Not active *** ...as push-button 1 ...as push-button 2 ...as push-button X
Behaviour button 2	This parameter can be used to configure the function of the buttons.	**Not active *** ...as push-button 1 ...as push-button 2 ...as push-button X
Behaviour button 3	This parameter can be used to configure the function of the buttons.	**Not active *** ...as push-button 1 ...as push-button 2 ...as push-button X
Behaviour button X	This parameter can be used to configure the function of the buttons.	**Not active *** ...as push-button 1 ...as push-button 2 ...as push-button X

Table 6: "Configuration second level" parameter

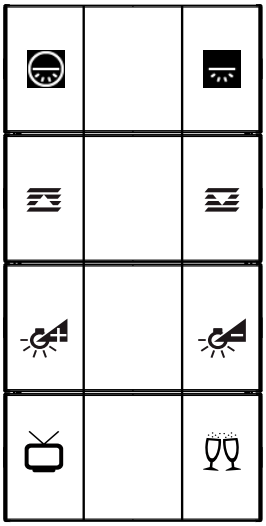
Operating level 1 relates to the individual function selection within the independent button or rocker parameters. In operating level 2, the selected button is assigned a function from the functions of the buttons in operating level 1.

* Default value

Operating level 1

- One function per button from: ON/OFF / toggle switch, dimming, blind, priority, value transmitter/light scene extension, controller

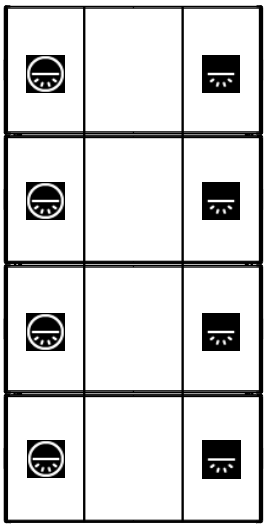
E.g. 4-fold



Operating level 2

- Left button row ⇒ 4 buttons with the same function
- Right button row ⇒ 4 buttons with the same function
- Function can be selected from functions of operating level 1

E.g. 4-fold



The assignment of the functions in the second operating level is only active when the parameter "Independent push-button" is selected under "Using mode".

It is advisable to only assign one shared function from the functions in operating level 1 to the buttons in the second operating level.

A separate object "Configuration second operating level" changes over the operating level.

No.	Name	Object function	Length	Data type
2	General	Configuration second level	1 bits	1.011 DPT_Status

3.4 Alarm

The device has its own communication object which can be used to signal alarm messages (1 bit).

Alarms are signalled by the simultaneous activation of all status LEDs and the direction LED at a frequency of approx. 2 Hz. The LED colour can be set separately for alarm signalling.

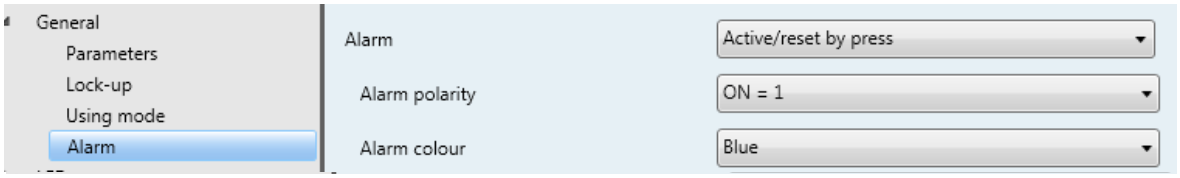


Figure 9: Alarm

Parameters	Description	Value
Alarm	This parameter activates/ deactivates the "Alarm" function.	**Not active** * Active Active/acknowledgement by press [1]
Alarm polarity	This parameter defines at which input level 0/1 the alarm message is to be switched on.	**ON = 1*** ON = 0
Alarm colour	This parameter sets the LED colour in the event on an alarm message.	Off Red Green **Blue** * Red + green Red + blue Blue + green

Table 7: Alarm

No.	Name	Object function	Length	Data type
3	General	Alarm	1 bits	1.005 DPT_Alarm

[1] *If the "Alarm" parameter is set to the value "Active/Acknowledgement by press", the alarm message can be acknowledged and shut off by pressing the button.*

* Default value

3.5 "LED management" parameters

3.5.1 General

LED management is configured and described in the following parameter window.

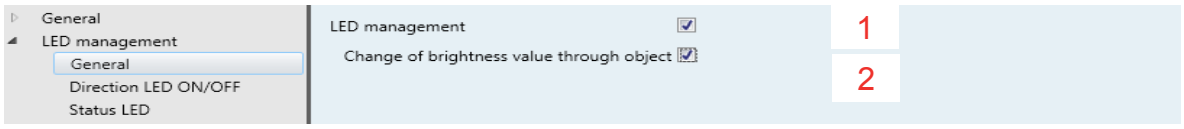


Figure 10: LED management, "General"

In order to make the settings for LED management, the tick box (Bild 10, 1) must be activated. The brightness value for both the status LED and the direction LED can also be changed separately for day and night using separate communication objects (Bild 10, 2).

When "LED management" is activated, another a parameter for configuring the status LED opens.

3.5.2 Direction LED ON/OFF

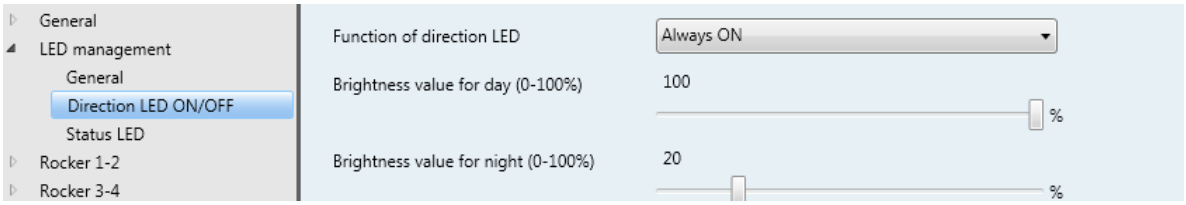


Figure 11: LED management, "Direction LED ON/OFF"

Parameters	Description	Value
Function of direction LED	This parameter sets the function of the direction LED.	**Always OFF *** Always ON Status indication (ON = 1) Status indication (ON = 0) Status indication blinking by 1 Status indication blinking by 0
Brightness value for day (0-100 %)	The slidebar for this parameter can be used to set the brightness value for daytime operation.	0 ... **100%***
Brightness value for night (0-100 %)	The sliding bar for this parameter can be used to set the brightness value for nighttime operation.	0 ... **20 %*** ... 100 %

Table 8: LED management, "Status LED"

* Default value

No.	Name	Object function	Length	Data type
3	General	Alarm	1 bits	1.005 DPT_Alarm
5	LED management	Day/Night	1 bits	
6	LED management	Device LED ON/OFF	1 bits	1.001 DPT_ON/OFF
7	LED management	Direction LED – status indication	1 bits	1.001 DPT_ON/OFF
8	LED management	Direction LED – dimming value day	1 byte	5.001 DPT_Percentage (0-100 %)
9	LED management	Status LED – brightness day	1 byte	5.001 DPT_Percentage (0-100 %)
10	LED management	Direction LED – dimming value night	1 byte	5.001 DPT_Percentage (0-100 %)
11	LED management	Status LED – brightness night	1 byte	5.001 DPT_Percentage (0-100 %)

3.5.3 Status LED

Each rocker is fitted with two RGB status LEDs that can be connected internally to the operating function depending on the function of the rocker or buttons. It is also possible to signal completely independent display information.

A distinction is made between "Individual" and "Global" during the parameterisation of the status LEDs. In the "Global" variant, the colour configuration is set centrally for all status LEDs in the "Status LED / LED management" tab.

In the "Individual" variant, however, all status LED settings must be configured directly in the respective button/rocker parameters as usual.

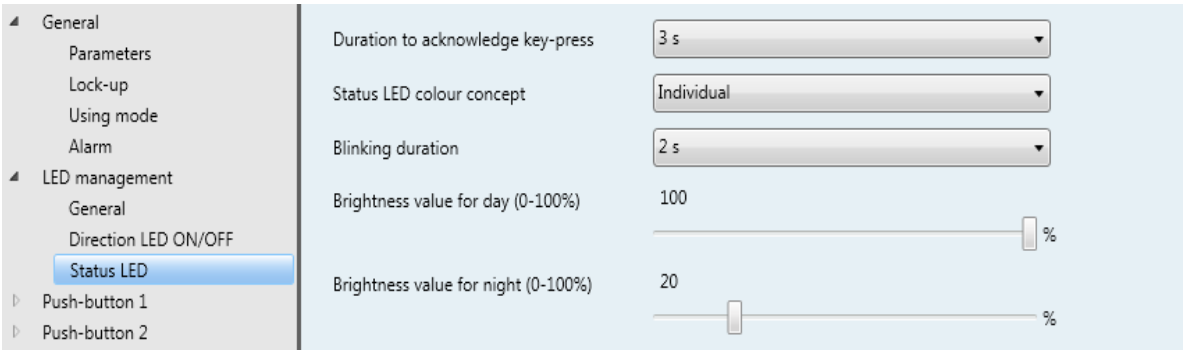


Figure 12: LED management, "Individual"

Parameters	Description	Value
Duration to acknowledge key-press	This parameter sets the function of the direction LED.	0.5 s ... **3 s** *- 5 s
Status LED colour concept	This parameter determines whether the colour concept for the status LEDs is to be set individually for each button/rocker or globally.	Global **Individual** *
Flashing duration	This parameter defines the blinking duration of the status LED.	250 ms - **2 s** *- 5 s
Brightness value for day (0-100 %)	The slidebar for this parameter can be used to set the brightness value for daytime operation.	0 ... **100 %***
Brightness value for night (0-100 %)	The sliding bar for this parameter can be used to set the brightness value for nighttime operation.	0 ... **20 %*** ... 100 %

Table 9: LED management, "Individual"

If the value in the "Status LED colour concept" parameter is set to "Global", a defined colour can be assigned to the function types (ON, OFF, comfort, standby, night setpoint, frost/heat protection). Note that in doing so, colours for independent buttons/rockers can no longer be selected.

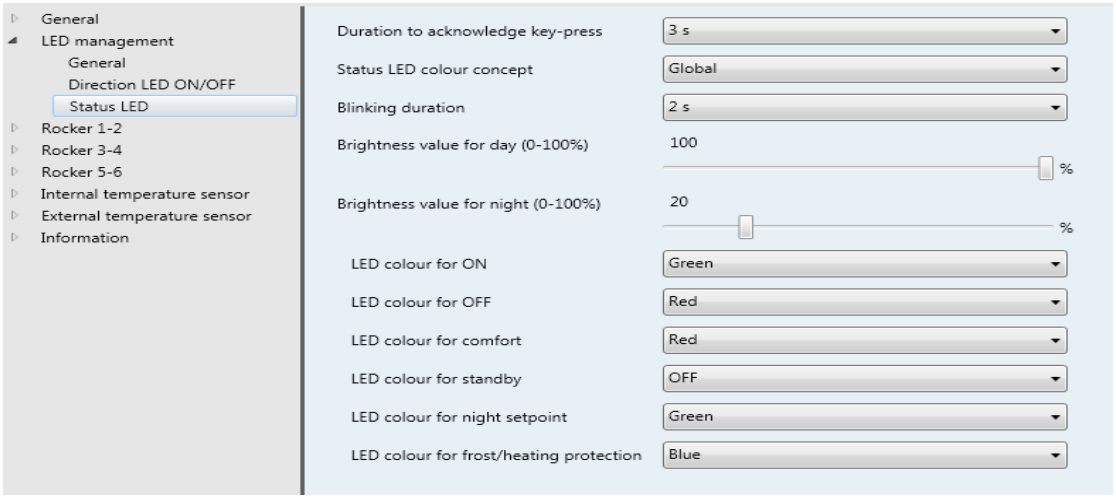


Figure 13: LED management, "Global"

Parameters	Description	Value
LED colour for ON	This parameter allows the status LED colour for the "ON" function to be set.	Off Red **Green** * Blue Red + green Red + blue Green + blue
LED colour for OFF	This parameter allows the status LED colour for the "OFF" function to be set.	Off **Red** * Green Blue Red + green Red + blue Green + blue
LED colour for comfort	This parameter allows the status LED colour for the "Comfort" function to be set.	Off **Red** * Green Blue Red + green Red + blue Green + blue
LED colour for standby	This parameter allows the status LED colour for the "Standby" function to be set.	**Off** * Red Green Blue Red + green Red + blue Green + blue

LED colour for night setpoint	This parameter allows the status LED colour for the "Night setpoint" function to be set.	Off Red **Green *** Blue Red + green Red + blue Green + blue
LED colour for frost/heat protection	This parameter allows the status LED colour for the "Frost/heat protection" function to be set.	Off Red Green **Blue *** Red + green Red + blue Green + blue

Table 10: LED management, "Global"

* Default value

4. "Independent push-button"/"rocker" configuration

4.1 General information

This chapter describes the "rocker/independent push-button" configuration. Only the first rocker or the first pair of independent push-buttons are described. Additional rockers/independent push-buttons must be configured accordingly.

ℹ The "Timer" function is only available in the "independent push-button" using mode.

ℹ Depending of the status LED configuration (individual/global), the status LED colour must be set in the rocker/individual push-button parameters.

4.1.1 Individual push-button using mode

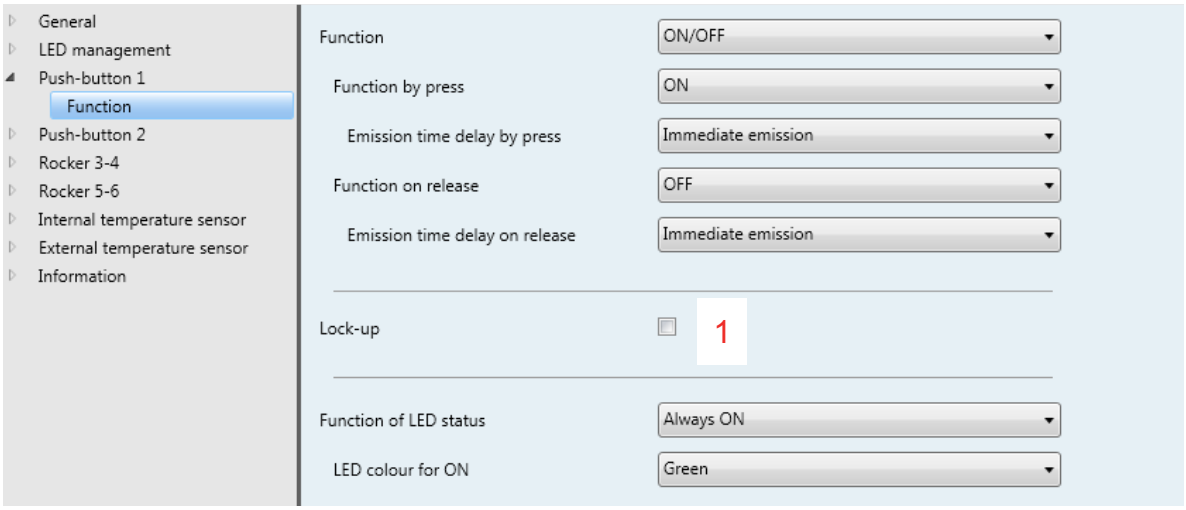


Figure 14: Function type of the independent push-button(s)

Parameters	Description	Value
Function of the independent push-button	This parameter defines the function type of the independent push-button(s).	**Not active *** Toggle switch ON/OFF Dimming Shutter/blind Timer [1] Value 1 byte Value 2 bytes Thermostat extension Priority Scene Automatic control deactivation
LED status	This parameter defines the status LED function.	**Always OFF *** Always ON [2] Acknowledgement [3] Status indication [4] Control through separately object Comparator unsigned Comparator signed
LED colour for ON [2; 3]	This parameter sets the status LED colour for "Always ON" or "Acknowledgement".	Off Red **Green *** Blue Red + green Red + blue Green + blue

LED colour for OFF [3]	This parameter sets the status LED colour for "Acknowledgement".	Off **Red *** Green Blue Red + green Red + blue Green + blue
LED behaviour [4]	This parameter sets the status LED behaviour when "Status display" is selected.	**Status display (ON = 1) *** Status display (ON = 0) Status display blinking (ON = 1) Status display blinking (ON = 0)
LED colour (over setpoint) [5 6]	This parameter sets the status LED colour for "Comparison value over setpoint".	Off **Red *** Green Blue Red + green Red + blue Green + blue
LED colour (equal setpoint) [5 6]	This parameter sets the status LED colour for "Comparison value equal to setpoint".	Off Red **Green *** Blue Red + green Red + blue Green + blue
LED colour (under setpoint) [5 6]	This parameter sets the status LED colour for "Comparison value under setpoint".	Off Red Green **Blue *** Red + green Red + blue Green + blue
Comparison function [5] (unsigned)	This parameter sets which value, 1 byte or 2 bytes, is to be compared in the compare function.	**Comparison of 2 bytes unsigned *** Comparison of 1 byte unsigned
Comparison setpoint of 2 bytes unsigned [5]	This parameter sets the 2-byte comparison setpoint.	**0 *** ... 655535
Comparison setpoint of 1 byte unsigned [5]	This parameter sets the 1-byte comparison setpoint.	**0 *** ... 255
Comparison function (signed) [6]	This parameter sets which value, 1 byte or 2 bytes, is to be compared in the compare function.	**Comparison of 2 bytes signed *** Comparison of 1 byte signed
Comparison setpoint of 2 bytes signed [6]	This parameter sets the 2-byte comparison setpoint.	-32768 ... **0 *** ... 32767
Comparison setpoint of 1 byte signed [6]	This parameter sets the 1-byte comparison setpoint.	-128 ... **0 *** ... 127

Table 11: "Button function type" parameters

* Default value

[1] The "Timer" function is only available in the "independent push-button" using mode.

[2] This parameter is only visible when the "Always ON" function is selected under "LED status".

[3] These parameters are only visible when the "Acknowledgement" function is selected under "LED status".

[4] This parameter is only visible when either the "Status indication" or "Control through separately object" function is selected under "LED status".

[5] This parameter is only visible when the "Comparator unsigned" function is selected under "LED status".

[6] This parameter is only visible when the "Comparator signed" function is selected under "LED status".

ⓘ The lock-up function can be activated for the respective independent push-button or rocker (tick box) (Bild 17 ,1).

* Default value

4.1.2 Rocker using mode

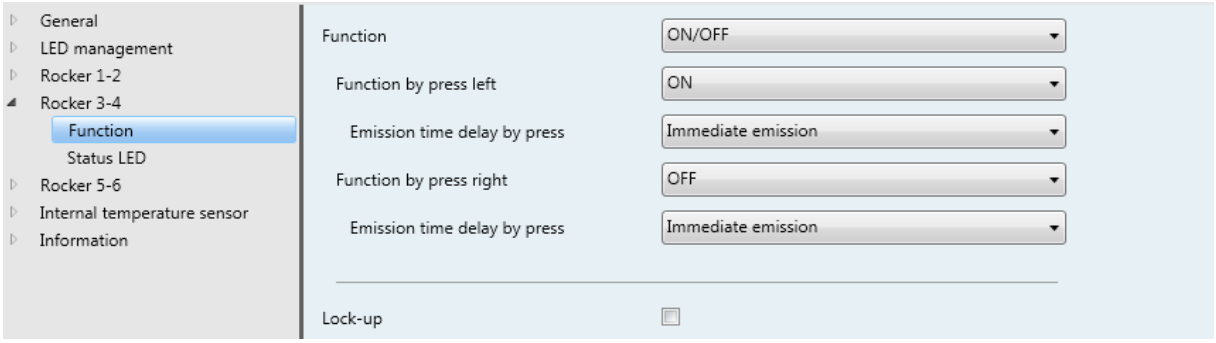


Figure 15: Function type of the rocker(s)

Parameters	Description	Value
Function	This parameter defines the function type of the rocker(s).	**Not active** * Toggle switch ON/OFF Dimming Shutter/blind Value 1 byte Value 2 bytes Thermostat extension Priority Scene Automatic control deactivation
Function by press left/top	This parameter defines the value when the left rocker is pressed.	Not active OFF **ON** *
Emission time delay by press	This parameter allows the emission delay when the left rocker is pressed to be set; i.e. when to transmit the "rocker pressed" signal to the bus can be set.	**Immediate emission** * 1 s - 5 min
Function by press right/bottom	This parameter defines the value when the right rocker is pressed.	Not active OFF **ON** *
Emission time delay by press	This parameter allows the transmission display when the right rocker is pressed to be set; i.e. when to transmit the "rocker pressed" signal to the bus can be set.	**Immediate emission** * 1 s - 5 min

Table 12: "Rocker function type" parameters

* Default value

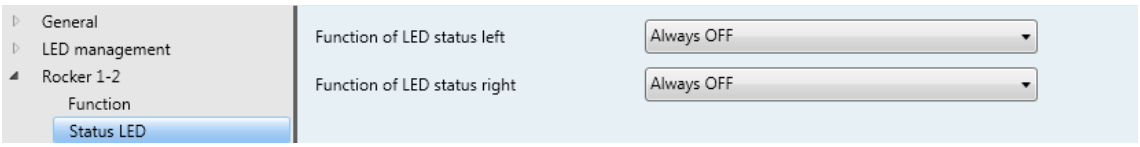


Figure 16: Status LED of the rocker(s)

Parameters	Description	Value
Function of LED status left/top Function of LED status right/bottom	This parameter defines the status LED function.	**Always OFF *** Always ON [1] Acknowledgement [2] Status indication [3]
LED colour for ON [2 3]	This parameter sets the status LED colour for "Always ON" or "Acknowledgement".	Off Red **Green *** Blue Red + green Red + blue Green + blue
LED colour for OFF [3]	This parameter sets the status LED colour for "Always OFF" or "Acknowledgement".	Off **Red *** Green Blue Red + green Red + blue Green + blue
LED behaviour [4]	This parameter sets the status LED behaviour when "Status display" is selected.	**Status display (ON = 1) *** Status display (ON = 0) Status display blinking (ON = 1) Status display blinking (ON = 0)
LED colour (over setpoint) [5 6]	This parameter sets the status LED colour for "Comparison value over setpoint".	Off **Red *** Green Blue Red + green Red + blue Green + blue
LED colour (equal setpoint) [5 6]	This parameter sets the status LED colour for "Comparison value equal to setpoint".	Off Red **Green *** Blue Red + green Red + blue Green + blue
LED colour (under setpoint) [5 6]	This parameter sets the status LED colour for "Comparison value under setpoint".	Off Red Green **Blue *** Red + green Red + blue Green + blue
Comparison function [5] (unsigned)	This parameter sets which value, 1 byte or 2 bytes, is to be compared in the compare function.	**Comparison of 2 bytes unsigned *** Comparison of 1 byte unsigned
Comparison setpoint of 2 bytes unsigned [5]	This parameter sets the 2-byte comparison setpoint.	**0 *** ... 655535
Comparison setpoint of 1 byte unsigned [5]	This parameter sets the 1-byte comparison setpoint.	**0 *** ... 255

Comparison function (signed) [6]	This parameter sets which value, 1 byte or 2 bytes, is to be compared in the compare function.	**Comparison of 2 bytes signed** * Comparison of 1 byte signed
Comparison setpoint of 2 bytes signed [6]	This parameter sets the 2-byte comparison setpoint.	-32768 ... **0** * ... 32767
Comparison setpoint of 1 byte signed [6]	This parameter sets the 1-byte comparison setpoint.	-128 ... **0** * ... 127

Table 13: "Status LED" parameters of the rocker(s)

[2] This parameter is only visible when the "Always ON" function is selected under "LED status".

[3] These parameters are only visible when the "Acknowledgement" function is selected under "LED status".

[4] This parameter is only visible when either the "Status indication" or "Control through separately object" function is selected under "LED status".

[5] This parameter is only visible when the "Comparator unsigned" function is selected under "LED status".

[6] This parameter is only visible when the "Comparator signed" function is selected under "LED status".

The lock-up function can be activated for the respective independent push-button or rocker (tick box) (Bild 17 ,1).

* Default value

4.2 "Toggle switch" function

The "Toggle switch" function for the independent push-button or rocker using mode is configured in the parameter windows below (Bild 20).

The "Toggle switch" function means changing over. When the "Toggle switch" function is active, pressing the same independent push-button/rocker side triggers an alternate switching command.

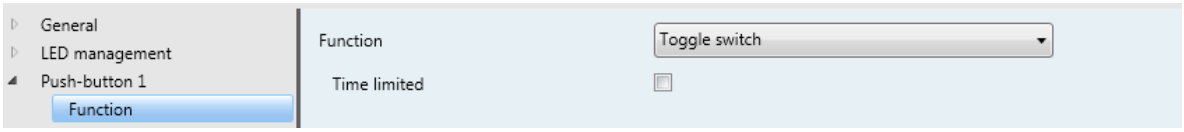


Figure 17: "Toggle switch" function of the push-button(s)

When the "Toggle switch" function is active in the rocker using mode, pressing the left or right rocker side triggers a switching command.

"Toggle switch" function communication objects (rocker)

No.	Name	Object function	Length	Data type
13, 53, 93, 133	Rocker x-y	ON/OFF status indication	1 bits	1.001 DPT_ON/OFF
18, 58, 98, 138	Rocker x-y	Switching	1 bits	1.001 DPT_ON/OFF

"Toggle switch" function communication objects (button)

No.	Name	Object function	Length	Data type
13, 33, 53, 73, 93, 113, 133.153	Button x	ON/OFF status indication	1 bits	1.001 DPT_ON/OFF
18, 38, 58, 78, 98.118 138.158	Button x	Switching	1 bits	1.001 DPT_ON/OFF

"Toggle switch" function – time limited

This function is only available in the "independent push-button" operating mode.

Pressing the button quickly changes the output state. The state changes each time a short key-press occurs. If the button is not pressed, the output is switched off after the time set in the output. Pressing the button for a long time retriggers the switch-off time.

Details: when a short key-press occurs, the push-button transmits the reversal of the last command received on the status object via the on pulse object. When the button is pressed for a long time, the push-button transmits an ON command via the on pulse object.

An ON command on the on pulse object in our TXA products switches on the output for the time set.

An OFF command on the on pulse object switches off the output. If an ON command follows even though the output is still switched on, the switch-on time is restarted (retriggered).

4.3 "ON/OFF" function

The different function variants of the "ON/OFF" function for the independent button (Bild 21) and rocker pair are presented and described in the parameter window below.

Figure 18: "Function by press/on release" parameters

The independent button can trigger different responses for the two actuation functions PRESS/ RELEASE.

Parameters	Description	Value
Function when rocker is pressed left/right (rocker configuration)	This parameter defines the function of the rocker.	**Not active** * ON OFF
Function by press/on release (individual push-button configuration)	This parameter defines the function of the button.	**Not active** * ON OFF
Emission time delay by press/on release	This parameter defines when the button command is to be transmitted to the bus.	**Immediate emission** * 1 s - 5 min

Table 14: "Function by press/on release" ON/OFF parameters

"ON/OFF" function communication objects (rocker)

No.	Name	Object function	Length	Data type
18, 58, 98, 138	Rocker x-y	Switching	1 bits	1.001 DPT_ON/OFF

"ON/OFF" function communication objects (button)

No.	Name	Object function	Length	Data type
18, 38, 58, 78, 98.118 138.158	Button x	Switching	1 bits	1.001 DPT_ON/OFF

* Default value

4.4 "Dimming" Function

The "Dimming" function is described below. The lighting can be switched on/off (short press of button) and dimmed brighter, darker (long press of button) with the "Dimming" function.

One-push-button and two-push-button operation in the dimming function. When the operating surface is set as a rocker, two-push-button operation is preset for the dimming function. For example, this means that in the event of a short press, the push-button transmits a telegram to switch on and, in the event of a long press, a telegram to dim upward ("Increase"). In line with this, in the event of a short press, the push-button transmits a telegram to switch off and, in the event of a long press, a telegram to dim down ("Decrease"). When the operating surface is used as a button, the one-push-button dimming function is preset. Each time a short press of the respective button occurs, the push-button transmits alternate switch-on and switch-off telegrams ("Toggle switch"). In the event of long presses, the push-button transmits the telegrams "Increase" and "Decrease" on an alternate basis. The "Command when button is pressed" and "Command when rocker is pressed" parameters on the parameter pages for the buttons or rockers define the one-push-button or two-push-button dimming principle. For the rocker or button function, the command when the rocker or button is pressed can be set as desired.

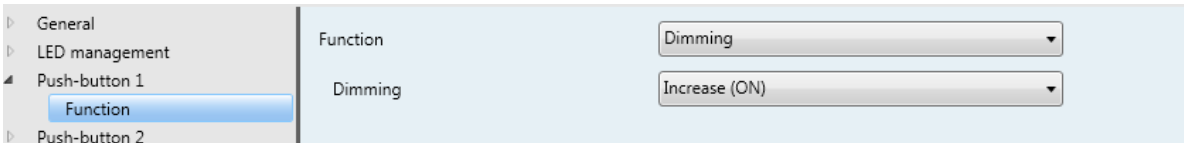


Figure 19: "Dimming" Function

Parameters	Description	Value
Function of the "Dimming" rocker	With this parameter the following function is assigned to the rocker in the "Dimming" function. A distinction is made here between the function when pressing the rocker left/right.	**Increase (ON) *** Decrease (OFF) Increase (toggle switch) Decrease (toggle switch) Increase/Decrease (toggle switch) Dimming value
Function of the independent push-button "Dimming"	With this parameter the following function is assigned to the button in the "Dimming" function when pressing the button.	**Increase (ON) *** Decrease (OFF) Increase (toggle switch) Decrease (toggle switch) Increase/Decrease (toggle switch) Dimming value

Table 15: Rocker/button "Dimming" function

"Dimming (Increase/Decrease)" function communication objects (rocker)

No.	Name	Object function	Length	Data type
18, 58, 98, 138	Rocker x-y	Switching	1 bits	1.001 DPT_ON/OFF
21, 61, 101.141	Rocker x-y	Dimming	4 bits	3.007 DPT_Dimmer step

* Default value

"Dimming (Increase/Decrease)" function communication objects (button)

No.	Name	Object function	Length	Data type
18, 38, 58, 78, 98.118 138.158	Button x	Switching	1 bits	1.001 DPT_ON/OFF
21, 41, 61, 81 101.121 141.161	Button x	Dimming	4 bits	3.007 DPT_Dimmer step

"Dimming (Increase/Decrease toggle switch)" function communication objects (rocker)

No.	Name	Object function	Length	Data type
13, 53, 93, 133	Rocker x-y	ON/OFF status indication	1 bits	1.001 DPT_ON/OFF
18, 58, 98, 138	Rocker x-y	Switching	1 bits	1.001 DPT_ON/OFF
21, 61, 101.141	Rocker x-y	Dimming	4 bits	3.007 DPT_Dimmer step

"Dimming (Increase/Decrease toggle switch)" function communication objects (button)

No.	Name	Object function	Length	Data type
13, 33, 53.73, 93, 113, 133.153	Button x	ON/OFF status indication	1 bits	1.001 DPT_ON/OFF
18, 38, 58, 78, 98.118 138.158	Button x	Switching	1 bits	1.001 DPT_ON/OFF
21, 41, 61, 81 101.121 141.161	Button x	Dimming	4 bits	3.007 DPT_Dimmer step

In addition to the dimming communication objects, the ON/OFF communication objects are also visible. Two separate group addresses for ON/OFF and dimming must be created and connected with the corresponding communication objects.

If the "Dimming – dimming value" function is selected, the dimming value is to be set by means of the slidebar (0 % … 100 %). Only one communication object can be selected in this function. The "Dimming – dimming value" function assigns a specific brightness value to the lamp via the connected actuator. The scene values are primarily only set in the actuator. Scenes can only be called up or adjusted on the push-button.

"Dimming value" function communication objects (rocker)

No.	Name	Object function	Length	Data type
22, 62, 102.142	Rocker x-y	Dimming value	1 byte	5.001 DPT_Percentage (0-100 %)

"Dimming value" function communication objects (button)

No.	Name	Object function	Length	Data type
22, 42, 62, 82 102.122 142.162	Button x	Dimming value	1 byte	5.001 DPT_Percentage (0-100 %)

4.5 "Shutter/blind" function

The "Shutter/blind" function for the button and rocker using modes are configured in the parameter windows below.

This function switches shutters, blinds, awnings and other hangings. In the "Shutter/blind" function, a distinction is made between long and short key-presses.

→ Short key-press: the device transmits a step or stop command to the bus via the Slat Step/Stop (step) communication object.

→ Long key-press: The device transmits a motion command (Up/Down) to the bus via the Up/Down (move) communication object.

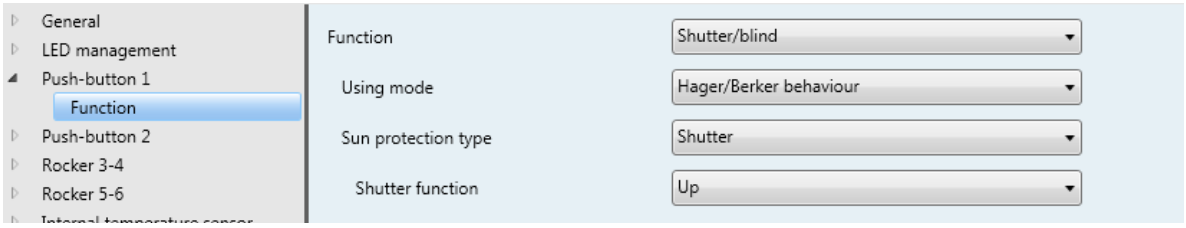


Figure 20: "Shutter/blind" function

In the rocker using mode, the "Shutter/blind" function can be set so that the left rocker side raises the shutter and the right side lowers it. The rocker sides work as part of the same function (they function in the same way as 2 shutter/blind buttons). Two communication objects (Rocker x-y Slat Step/Stop (step) and rocker x-y Up/Down (move)) are displayed for the respective function version.

Operating concepts for the roller shutter / blind function

Five different operating concepts are available in the application for activating roller shutters, blinds or similar hangings. In these operating concepts, the telegrams are transmitted to the bus with a different time sequence. This allows the widest range of drive concepts to be set and operated.

Parameters	Description	Value
Using mode of the rocker(s)/ independent push-button(s)	This parameter selects the using mode of the "Shutter/blind" function	**Hager/Berker behaviour *** Short – Long – Short Long – Short Short – Long Long – Short or Short

Table 16: "Shutter/blind" rocker/button using mode

* Default value

4.5.1 HAGER operating concept

The "Hager/Berker behaviour" has been specially adapted to the Hager blind and roller shutter actuators.

Parameters	Description	Value
Sun protection type	This parameter selects the type of the hanging	**Blind *** Shutter
Shutter function: When pressing the "left/right rocker side" or the "independent push-button"	In the sun protection type, this parameter selects the function of the two buttons, left/right rocker side/independent push-buttons.	**Up** Down Up/Down/Stop Position (0-100 %) Secured up Secured down Secured up/down/stop
Blind function: When pressing the "left/right rocker side" or the "independent push-button"	In the sun protection type, this parameter selects the function of the two buttons, left/right rocker side/independent push-buttons.	Up Down Up/Down/Stop Position (0-100 %) Position/Slat angle (0-100 %) Slat angle (0-100 %) Secured up Secured down Secured up/down/stop

Table 17: Parameters in the Hager/Berker behaviour

Parameters	Description	Value
Position (0-100 %) [1]	This parameter sets a specific shutter/blind position using the slidebar.	**0 % *** … 100 %
Slat angle (0-100 %) [3]	This parameter sets the slat angle of the slat using the slidebar.	**0 % *** ... 100 %

Table 18: Blind, shutter and slat position parameters

[1] This parameter is only visible when the value "Position (0-100 %)" or "Position/slat angle (0-100 %)" is selected in the "Function when pressing the rocker side/independent push-button" parameter.

[2] This parameter is only visible when the value "Slat angle (0-100 %)" or "Position/slat angle (0-100 %)" is selected in the "Function when pressing the rocker side/independent push-button".

* Default value

4.5.2 "Short – Long – Short" operating concept

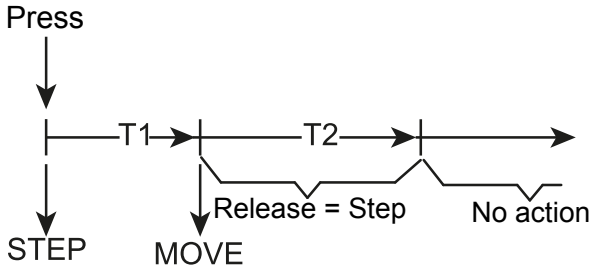


Figure 21: "Short – Long – Short" operating concept

As soon as the button is pressed, the device transmits a step telegram to the bus. As a result, a moving drive is stopped and the time T1 ("the time between a step and move command") is started. If the button is released again within T1, no further telegram is transmitted. This step stops an ongoing continuous move.

ℹ The "time between a step and move command" in the device should be set shorter than the step operation of the actuator so that no disturbing buckling of the blind occurs.

If the button is kept pressed for longer than T1, the push-button transmits a move telegram for extending the drive after T1 has expired and the time T2 ("slat adjusting time") is started.

If the button is released within the slat adjusting time, the device transmits another short-time telegram. This function is used for the slat adjustment of a blind. As a result, the slats can be stopped at any position within their rotation. The length of the "slat adjusting time" selected should be as long as the time required by the drive to turn the slats completely. If the "slat adjusting time" selected is longer than the complete operation time of the drive, a touch function is also possible. The driver only moves if the button is pressed down.

If the button is pressed down longer than T2, the device does not transmit any further telegram. The drive continues moving until the end position is reached.

Times T1 ("time between a step and move command") and T2 ("slat adjusting time") must first be adjusted.

Parameters	Description	Value
Duration between short-long key-press T1	T1 is the time between a step and move command	1 ... **4** *... 3000 (x100 ms)
Duration of the slat angle setting T2	T2 is the slat adjusting time.	1 ... **5** *... 3000 (x100 ms)

Table 19: Time setting under "Short – Long – Short"

* Default value

Parameters	Description	Value
Shutter function: When pressing the "left/right rocker side" or the "independent push-button"	In the "Shutter" sun protection type, this parameter selects the function of the two buttons, left/right rocker side/independent push-buttons.	**Up *** Down Position (0-100 %)
Blind function: When pressing the "left/right rocker side" or the "independent push-button"	In the "Blind" sun protection type, this parameter selects the function of the push-buttons, left/right rocker side/independent push-buttons.	**Up *** Down Position (0-100 %) Position/slat angle (0-100 %) Slat angle (0-100 %)
Position (0-100 %) [1, 2]	This parameter allows the shutter/blind to reach a specific position by pressing a button. The value is set using the slidebar.	**0 % *** … 100 %
Slat angle (0-100 %) [2,]	This parameter allows a specific blind slat angle to be set by pressing a button. The value is set using the slidebar.	**0 % *** … 100 %

Table 20: Blind, shutter and slat position parameters

[1] This parameter is only visible when the value "Position (0-100 %)" or "Position/slat angle (0-100 %)" is selected in the "Function when pressing the rocker side/independent push-button" parameter.

[2] This parameter is only visible when the value "Slat angle (0-100 %)" or "Position/slat angle (0-100 %)" is selected in the "Function when pressing the rocker side/independent push-button".

* Default value

4.5.3 "Long – Short" operating concept

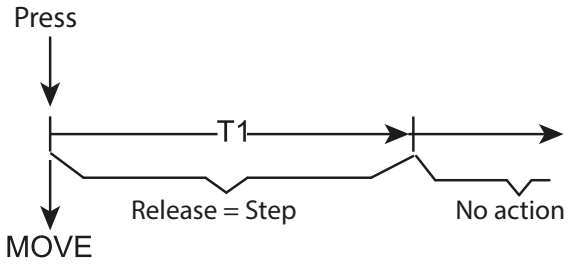


Figure 22: "Long – Short" operating concept

Immediately upon pressing the button, the device transmits a long-time telegram (Move). As a result, the drive starts moving and time T1 ("slat adjusting time") is started.

If the button is released during the slat adjusting time, the device transmits a step telegram. This function is used for the slat adjustment of a blind. As a result, the slats can be stopped at any position within their rotation. The length of the "slat adjusting time" selected should be as long as the time required by the drive to turn the slats completely. If the "slat adjusting time" selected is longer than the complete operation time of the drive, a touch function is also possible. The driver only moves if the button is pressed down.

If the button is pressed down longer than T1, the device does not transmit any further telegram. The drive continues moving until the end position is reached.

Time T1 ("time between a step and move command") must first be adjusted.

Parameters	Description	Value
Duration between short-long key-press T1	T1 is the time between a step and move command	1 ... **4** *... 3000 (x100 ms)

Table 21: Time setting under "Long – Short"

* Default value

Parameters	Description	Value
Shutter function: When pressing the "left/right rocker side" or the "independent push-button"	In the "Shutter" sun protection type, this parameter selects the function of the two buttons, left/right rocker side/independent push-buttons.	**Up *** Down Position (0-100 %)
Blind function: When pressing the "left/right rocker side" or the "independent push-button"	In the "Blind" sun protection type, this parameter selects the function of the push-buttons, left/right rocker side/independent push-buttons.	**Up *** Down Position (0-100 %) Position/slat angle (0-100 %) Slat angle (0-100 %)
Position (0-100 %) [1]	This parameter allows the shutter/blind to reach a specific position by pressing a button. The value is set using the slidebar.	**0 % *** … 100 %
Slat angle (0-100 %) [2,]	This parameter allows a specific blind slat angle to be set by pressing a button. The value is set using the slidebar.	**0 % *** … 100 %

Table 22: Blind, shutter and slat position parameters

[1] This parameter is only visible when the value "Position (0-100 %)" or "Position/slat angle (0-100 %)" is selected in the "Function when pressing the rocker side/independent push-button" parameter.

[2] This parameter is only visible when the value "Slat angle (0-100 %)" or "Position/slat angle (0-100 %)" is selected in the "Function when pressing the rocker side/independent push-button".

* *Default value*

4.5.4 "Short – Long" operating concept

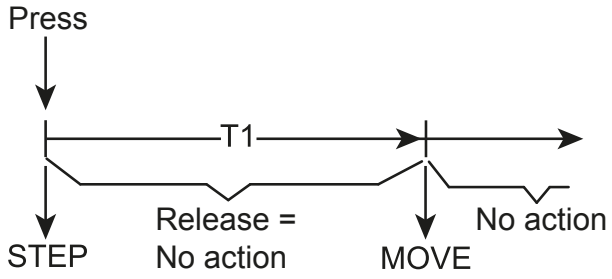


Figure 23: "Short – Long" using mode

Immediately upon pressing the button, the device transmits a short-time telegram. As a result, a moving drive is stopped and the time T1 ("the time between a step and move command") is started. If the button is released again within T1, no further telegram is transmitted. This step stops an ongoing continuous move. The "time between a step and move command" in the push-button should be set shorter than the step operation of the actuator so that no disturbing buckling of the blind occurs.

If the button is kept pressed longer than T1, the push-button transmits a long-time telegram for extending the driver after T1 has expired.

When the button is released, the push-button does not transmit any further telegram. The drive continues moving until the end position is reached.

Times T1 ("time between a step and move command") and T2 ("slat adjusting time") must first be adjusted.

Parameters	Description	Value
Duration between short-long key-press T1	T1 is the time between a step and move command	1 ... **4** *... 3000 (x100 ms)

Table 23: Time setting under "Short – Long"

* Default value

Parameters	Description	Value
Shutter function: When pressing the "left/right rocker side" or the "independent push-button"	In the "Shutter" sun protection type, this parameter selects the function of the two buttons, left/ right rocker side/independent push-buttons.	**Up *** Down Position (0-100 %)
Blind function: When pressing the "left/right rocker side" or the "independent push-button"	In the "Blind" sun protection type, this parameter selects the function of the push-buttons, left/right rocker side/independent push-buttons.	**Up *** Down Position (0-100 %) Position/slat angle (0-100 %) Slat angle (0-100 %)
Position (0-100 %) [1]	This parameter allows the shutter/ blind to reach a specific position by pressing a button. The value is set using the slidebar.	**0 % *** … 100 %
Slat angle (0-100 %) [2,]	This parameter allows a specific blind slat angle to be set by pressing a button. The value is set using the slidebar.	**0 % *** … 100 %

Table 24: Blind, shutter and slat position parameters

[1] This parameter is only visible when the value "Position (0-100 %)" or "Position/slat angle (0-100 %)" is selected in the "Function when pressing the rocker side/independent push-button" parameter.

[2] This parameter is only visible when the value "Slat angle (0-100 %)" or "Position/slat angle (0-100 %)" is selected in the "Function when pressing the rocker side/independent push-button".

* Default value

4.5.5 "Long – Short or Short" operating concept

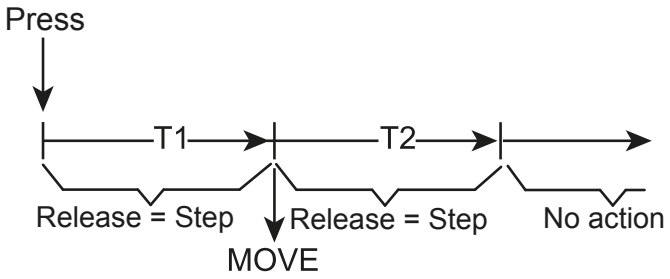


Figure 24: "Long – Short or Short" operating concept

As soon as the button is pressed, the device starts the time T1 ("time between a step and move command") and waits. If the button is released again before T1 expires, the device transmits a step telegram. In this way, a moving drive can be stopped. A stationary drive turns the slats by one step.

If the button remains pressed after T1 has expired, the device transmits a move telegram and starts the time T2 ("slat adjusting time").

If the button is released within T2, the device transmits a short-time telegram. This function is used for the slat adjustment of a blind. As a result, the slats can be stopped at any position within their rotation. The length of the "slat adjusting time" selected should be as long as the time required by the drive to turn the slats completely. If the "slat adjusting time" selected is longer than the complete operation time of the drive, a touch function is also possible. The driver only moves if the button is pressed down.

If the button is pressed down longer than T2, the device does not transmit any further telegram. The drive continues moving until the end position is reached.

ⓘ In this using mode, the device does not transmit a telegram as soon as a button is pressed. This makes it possible in the rocker configuration to also detect a full surface operation.

Times T1 ("time between a step and move command") and T2 ("slat adjusting time") must first be adjusted.

Parameters	Description	Value
Duration between short-long key-press T1	T1 is the time between a step and move command	1 ... **4** *... 3000 (x100 ms)
Duration of the slat angle setting T2	T2 is the slat adjusting time	1 ... 5 *... 3000 (x100 ms)

Table 25: Time setting under "Long – Short or Short"

* Default value

Parameters	Description	Value
Shutter function: When pressing the "left/right rocker side" or the "independent push-button"	In the "Shutter" sun protection type, this parameter selects the function of the two buttons, left/ right rocker side/independent push-buttons.	**Up** * Down Position (0-100 %)
Blind function: When pressing the "left/right rocker side" or the "independent push-button"	In the "Blind" sun protection type, this parameter selects the function of the push-buttons, left/right rocker side/independent push-buttons.	**Up** * Down Position (0-100 %) Position/slat angle (0-100 %) Slat angle (0-100 %)
Position (0-100 %) [1]	This parameter allows the shutter/ blind to reach a specific position by pressing a button. The value is set using the slidebar.	**0 %** * … 100 %
Slat angle (0-100 %) [2]	This parameter allows a specific blind slat angle to be set by pressing a button. The value is set using the slidebar.	**0 %** * … 100 %

Table 26: Blind, shutter and slat position parameters

[1] This parameter is only visible when the value "Position (0-100 %)" or "Position/slat angle (0-100 %)" is selected in the "Function when pressing the rocker side/independent push-button" parameter.

[2] This parameter is only visible when the value "Slat angle (0-100 %)" or "Position/slat angle (0-100 %)" is selected in the "Function when pressing the rocker side/independent push-button".

"Up/Down" communication objects for shutter/blind operation (rocker)

No.	Name	Object function	Length	Data type
18, 58, 98.138	Rocker x-y	Up/Down	1 bits	1.008 DPT_Up/Down
19, 59, 99.139	Rocker x-y	Slat Step/Stop (step)	1 bits	1.007 DPT_Step

"Position (0-100 %)" communication objects for shutter/blind operation (rocker)

No.	Name	Object function	Length	Data type
22.62, 102.142	Rocker x-y	Position in %	1 byte	5.001 DPT_Percentage (0-100 %)

"Position/slat angle (0-100 %)" communication objects for shutter/blind operation (rocker)
(0..100%)“ für Rollladen-/Jalousiebetrieb (Wippe)

No.	Name	Object function	Length	Data type
22.62, 102.142	Rocker x-y	Position in %	1 byte	5.001 DPT_Percentage (0-100 %)
23, 63, 103.143	Rocker x-y	Slat angle in %	1 byte	5.001 DPT_Percentage (0-100 %)

"Slat angle (0-100 %)" communication objects for shutter/blind operation (rocker)

No.	Name	Object function	Length	Data type
23, 63, 103.143	Rocker x-y	Slat angle in %	1 byte	5.001 DPT_Percentage (0-100 %)

"Up/Down" communication objects for shutter/blind operation (button)

No.	Name	Object function	Length	Data type
18, 38, 58.78 98.118, 138.158	Button x	Up/Down	1 bits	1.008 DPT_Up/Down
19, 39, 59.79, 99.119, 139.159	Button x	Slat Step/Stop (step)	1 bits	1.007 DPT_Step

"Position (0-100 %)" communication objects for shutter/blind operation (button)

No.	Name	Object function	Length	Data type
22.42, 62.82, 102.122 142.162	Button x	Position in %	1 byte	5.001 DPT_Percentage (0-100 %)

"Position/slat angle (0-100 %)" communication objects for shutter/blind operation (button)
(0..100%)“ für Rollladen-/Jalousiebetrieb (Taste)

No.	Name	Object function	Length	Data type
22.42, 62.82, 102.122 142.162	Button x	Position in %	1 byte	5.001 DPT_Percentage (0-100 %)
23, 43, 63.83, 103.123 143.163	Button x	Slat angle in %	1 byte	5.001 DPT_Percentage (0-100 %)

"Slat angle (0-100 %)" communication objects for shutter/blind operation (button)

No.	Name	Object function	Length	Data type
23, 43, 63.83, 103.123 143.163	Button x	Slat angle in %	1 byte	5.001 DPT_Percentage (0-100 %)

4.6 "Timer" function

ℹ The **"Timer"** function is only available in the independent push-button operating mode.

In the "Timer" function, when a short key-press occurs, the parameterised switch output is switched for the time set in the switch actuator. When a long key-press occurs, the ongoing timer operation is interrupted and the switch output is switched off.

When a short key-press occurs, a 1-bit switch command is transmitted to the bus and the respective output is switched on. When a long key-press occurs, an OFF command is transmitted by the same 1-bit object.

Figure 25: "Timer" function

An ON command on the "Timer" object in the TXA output products switches on the output for the set time.

If additional ON commands are transmitted to the "Timer" object within 10 s, the switch-on time of the output (for our TXA products) is calculated as follows:

Switch-on time = (1 + number of actuations) * set time in switch actuator

The set time begins to count down when the last key-press occurs. Pressing the button again after 10 s restarts (retriggers) the time set in the switch actuator. An OFF command switches off the output immediately.

"Timer" communication objects (button)

No.	Name	Object function	Length	Data type
18, 38, 58.78 98.118, 138.158	Button x	Timer	1 bits	1.008 DPT_Start/Stop

4.7 "Value 1 byte" function

In the following parameter window, the "Value 1 byte" function is parameterised and set as a rocker or independent push-button in the using mode.

The application provides a 1-byte communication object for each rocker or independent push-button. Pressing a button transmits the set value to the bus. In the "rocker" using mode, different values can be parameterised and set for the two rocker sides.

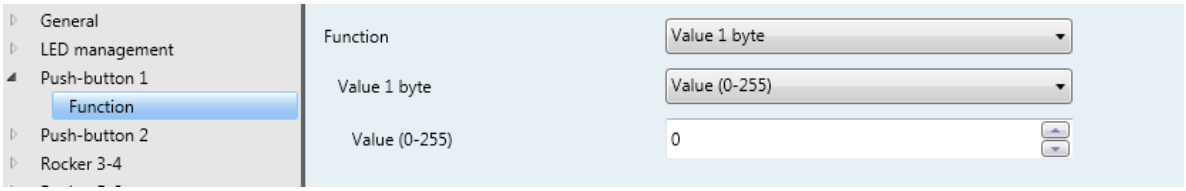


Figure 26: Function of the "Value 1 byte" independent push-button

Parameters	Description	Value
Function of the rocker "Value 1 byte" [1]	This parameter assigns the rocker one of the following object values when pressed. A distinction is made between the function when pressing left or right. The 1-byte value as a percentage is set using the slidebar.	**Value (0-255) *** Percent (0-100 %)
Function of the independent push-button "Value 1 byte" [1]	This parameter assigns the independent push-button one of the following object values when pressed. The 1-byte value as a percentage is set using the slidebar.	**Value (0-255) *** Percent (0-100 %)

Table 27: Function of the "Value 1 byte" rocker/independent push-button

[1] *If the respective function value is selected, another parameter window opens for setting the desired 1-byte value (0-255 / 0-100 %).*

"Value 1 byte (0-100 %)" communication objects (rocker)

No.	Name	Object function	Length	Data type
22.62, 102.142	Rocker x-y	Value in %	1 byte	5.001 DPT_Percentage
22.62, 102.142	Rocker x-y	Value in (0-255)	1 byte	5.001 DPT_Percentage

* Default value

"Value 1 byte (0-100 %)" communication objects (button)

No.	Name	Object function	Length	Data type
22, 42, 62.82, 102.122 142.162	Button x	Value in %	1 byte	5.001 DPT_Percentage
22, 42, 62.82, 102.122 142.162	Button x	Value in (0-255)	1 byte	5.001 DPT_Percentage

The "Value 1 byte" parameter defines which value range the push-button should use. Relative values ranging from 0 to 100 % can be transmitted to the bus for the "Value 1 byte" function by means of a slide control.

4.8 "Value 2 bytes" function

In the following parameter window, the "Value 2 bytes" function is parameterised and set as a rocker or button in the using mode.

The application provides a 2-byte communication object for each rocker or button. Pressing a button transmits the set value to the bus. In the "rocker" using mode, different values can be parameterised and set for the two rocker sides.

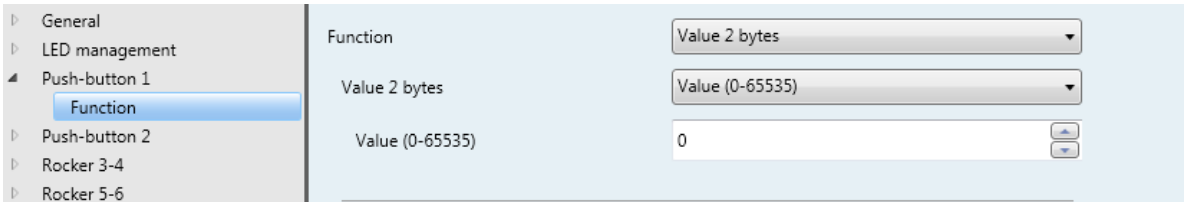


Figure 27: Function of the "Value 2 bytes" independent push-button

Parameters	Description	Value
Function of the rocker "Value 2 bytes" [1]	This parameter assigns the rocker one of the following object values when pressed. A distinction is made between the function when pressing left or right.	Temperature Luminosity **Value (0-65535) ***
Function of the "Value 2 bytes" independent push-button[1]	This parameter assigns the independent push-button one of the following object values when pressed.	Temperature Luminosity **Value (0-65535) ***

Table 28: Function of the "Value 2 bytes" rocker/independent push-button

[1] *If the respective function value is selected, another parameter window opens for setting the desired 2-byte value (0-65535 / 0-1000 Lux / 0- 40°C)*

"Value 2 bytes" communication objects (rocker)

No.	Name	Object function	Length	Data type
24.64, 104.144	Rocker x-y	Value (0-65535)	2 byte	7.001 DPT_Pulse
24.64, 104.144	Rocker x-y	Temperature value	2 byte	9.001 DPT_Temperature (°C)
24.64, 104.144	Rocker x-y	Brightness value	2 byte	9.004 DPT_Lux (Lux)

"Value 2 bytes" communication objects (independent push-button)

No.	Name	Object function	Length	Data type
24.44, 64, 84, 104.124 144.164	Button x	Value (0-65535)	2 byte	7.001 DPT_Pulse
24.64, 104.144	Button x	Temperature value	2 byte	9.001 DPT_Temperature (°C)
24.64, 104.144	Button x	Brightness value	2 byte	9.004 DPT_Lux (Lux)

* Default value

4.9 Function "Room thermostat extension unit

This function allows an external KNX thermostat (KNX thermostat 80440100 or KNX room controller 80660100, for example) to be activated using the push-button operation button.

This allows the user to change/adjust basic controller functions (such as override setpoint, setpoint selection, heating/cooling changeover, presence detection) from different places in the room.

- The thermostat extension is, however, not actively involved in the actual calculation of the temperature control.
- The thermostat extension only works properly when all communication objects are connected to the appropriate objects in the associated KNX thermostat with a group address.

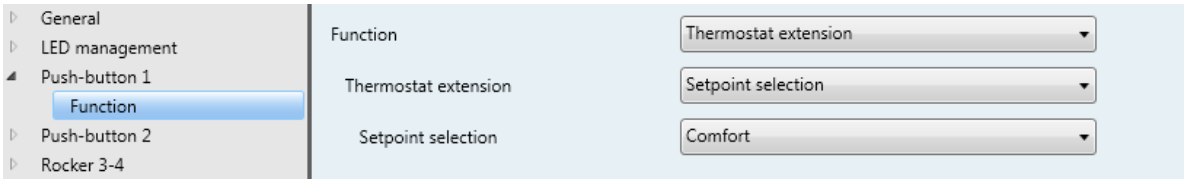


Figure 28: Function of the "Thermostat extension" independent push-button

Parameters	Description	Value
Function of the "Thermostat extension" rocker [1]	This parameter assigns the following function to the rocker in the "Thermostat extension" function. A distinction is made between the function when pressing left or right.	**Override setpoint *** Setpoint selection Heating/cooling-changeover Presence
Function of the "Thermostat extension" independent push-button [1]	This parameter assigns the following function to the push-button in the "Thermostat extension" function when the button is pressed.	**Override setpoint *** Setpoint selection Heating/cooling-changeover Presence

Table 29: Function of the "Thermostat extension" rocker/button

[1] *If the respective function value is selected, another parameter window opens for setting the desired function type.*

* Default value

Parameters	Description	Value
"Override setpoint"	This parameter defines which operating mode is transmitted to the KNX when a button is pressed (on the controller extension). Rocker function: different operating modes can be set for the left and right rocker sides Independent push-button: one operating mode assigned for when the button is pressed	**Comfort *** Standby Night setpoint Frost protection Auto
"Setpoint selection"	With this parameter, pressing the rocker/independent push-button in the "Setpoint selection" function changes the setpoint temperature in a thermostat. This means: When a button is pressed (independent push-button or rocker operation left/right), a new set temperature – including the defined increase (+0.5°C or +1.0°C) or decrease (-0.5°C or -1.0°C) – is transmitted to the KNX or KNX thermostat. Two 2-byte objects are available for communication here.	**-1.0°C … +1.0°C ***
"Heating/cooling-changeover"	With this parameter, each time the independent push-button or rocker (left/right) is pressed, the function of the heating system (heating/cooling) is changed over. Two 1-bit objects are available for communication here (changeover and status indication).	
"Presence"	When this function is active, pressing the independent push-button or rocker function (left/right) activates or deactivates a specific presence function.	Presence ON **Presence OFF *** Presence toggle switch

Table 30: Function of the "Thermostat extension" rocker/independent push-button

* Default value

The "Override setpoint" function allows the "Comfort", "Standby", "Frost protection", "Night setpoint" or "Auto" operating modes to be transmitted to the bus.

Example:

– Comfort

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

– Standby

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

– Frost protection

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

– Night lowering

The **Night setpoint** operating mode turns down the room temperature during a long absence (holiday, for example) to a value of 17°C, for example, defined in the thermostat.

– Auto

The **Auto** operating mode automatically resets the operating mode to the current operating mode (after forced position, for example).

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

"Override setpoint" communication objects (rocker)

No.	Name	Object function	Length	Data type
22.62, 102.142	Rocker x-y	Override setpoint	1 byte	20.102 DPT_HVAC mode

"Override setpoint" communication objects (independent push-button)

No.	Name	Object function	Length	Data type
22, 42, 62, 82, 102.122 142.162	Button x	Override setpoint	1 byte	20.102 DPT_HVAC mode

"Heating/cooling-changeover" communication objects (rocker)

No.	Name	Object function	Length	Data type
13.53, 93.133	Rocker x-y	Heating/cooling - status indication	1 bits	1.100 DPT_heating/cooling
18.58, 98.138	Rocker x-y	Heating/cooling-changeover	1 bits	1.100 DPT_heating/cooling

"Heating/cooling-changeover" communication objects (independent push-button)

No.	Name	Object function	Length	Data type
13.33, 53, 73 93.113, 133.153	Button x	Heating/cooling - status indication	1 bits	1.100 DPT_heating/cooling
18.38, 58, 78 98.118, 138.158	Button x	Heating/cooling-changeover	1 bits	1.100 DPT_heating/cooling

"Setpoint selection" communication objects (rocker)

No.	Name	Object function	Length	Data type
24.64, 104.144	Rocker x-y	Setpoint selection	2 byte	9.002 DPT_Temperature difference (°C)
29.69, 109.149	Rocker x-y	Setpoint selection status	2 byte	9.002 DPT_Temperature difference (°C)

"Setpoint selection" communication objects (independent push-button)

No.	Name	Object function	Length	Data type
24.44, 64.84, 104.124 144.164	Rocker x-y	Setpoint selection	2 byte	9.002 DPT_Temperature difference (°C)
29.49, 69.89, 109.129 149.169	Rocker x-y	Setpoint selection status	2 byte	9.002 DPT_Temperature difference (°C)

"Presence" communication objects (rocker)

No.	Name	Object function	Length	Data type
18.58, 98.138	Rocker x-y	Presence	1 bits	1.100 DPT_ON/OFF

"Presence" communication objects (independent push-button)

No.	Name	Object function	Length	Data type
18.38, 58, 78, 98.118 138.158	Button x	Presence	1 bits	1.100 DPT_ON/OFF

4.10 "Mandatory control" function

The "Priority" function for the independent push-button and rocker is configured in this section. This function allows a switch output to be forced to a switch position by a 2-bit telegram regardless of the ON/OFF object (higher priority).

The value of the 2-bit telegram is defined according to the following syntax:

When "Priority" is active, incoming switch telegrams are still evaluated internally; when "Priority" is no longer active, the current internal switch condition, according to the ON/OFF object value, is set.

A "Priority" function activated before a bus voltage failure is always deactivated after a bus voltage recovery. The effect of the "Priority" function depends on the actuator channel connected (lighting, shutter/blind, heating).

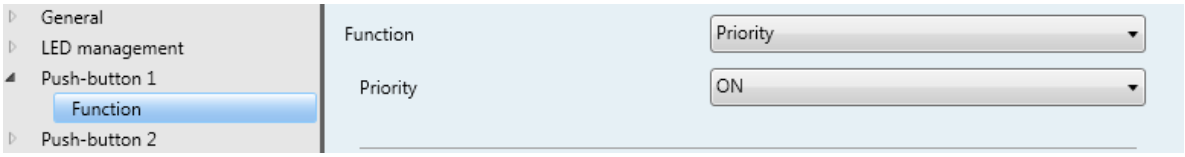


Figure 29: "Mandatory control" function

Value		Output behaviour
Bit 1	Bit 0	
0	0/1	End of "Priority"
1	0	"Priority" OFF
1	1	"Priority" ON

Table 31: "Priority" 2-bit communication object

Parameters	Description	Value
Function of the "Priority" rocker	This parameter assigns the following function to the rocker in the "Priority" function. A distinction is made between the function when pressing the rocker left or right.	**ON** * Off
Function of the "Priority" independent push-button	This parameter assigns the following function to the independent push-button in the "Priority" function when the button is pressed.	**ON** * Off

Table 32: Function of the "Priority" rocker/independent push-button

* Default value

"Priority" communication objects (rocker)

No.	Name	Object function	Length	Data type
13, 53, 93, 133	Rocker x-y	Priority status indication	1 bits	1.011 DPT_Status
20.60, 100.14	Rocker x-y	Mandatory control	2 bits	2.001 DPT_Status

"Priority" communication objects (independent push-button)

No.	Name	Object function	Length	Data type
13.33, 53, 73 93.113, 133.153	Button x	Priority status indication	1 bits	1.011 DPT_Status
20.40, 60.80, 100.12 140.16	Button x	Mandatory control	2 bits	2.001 DPT_Status

Example: "Window cleaner" function

The window cleaner function is an application that prevents a manual operation of the blind/roller shutter from being executed during the window cleaning. As a result, the blind/roller shutter operation is disabled from a central point. Blinds that have already been lowered are moved to the upper stop position. The manual blind/roller shutter function is also enabled from a central point.

4.11 "Scene" function

In the following parameter window, the "Scene" function is parameterised and set as a rocker and button in the operating concept.

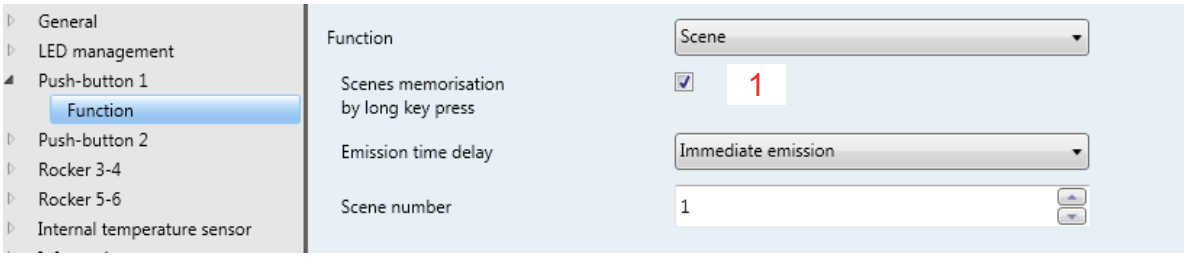


Figure 30: "Scene" function

The "Scene" function can be used as a scene extension and can be used to call up or save configured light scenes that are stored in other KNX devices. The device can call up and save a maximum of 64 scenes. Through a short key-press, the device transmits a value between 0 and 63 (where value 0 corresponds to scene 1 and value 63 corresponds to scene 64) to the bus via the scene control communication object. The scene is called up when the button is released.

Bit number							
7	6	5	4	3	2	1	0
Save	X	Scene number (0 = scene 1 ---- bit no. +1 = scene number)					

Table 33: Structure of 1-byte scene communication object

X = not relevant.

If the scene memorisation function is activated with a long key-press, the scene parameter values can be connected to the device and stored with a long key-press. Scene memorisation can also be deactivated with a long key-press (untick box Bild 30, 1).

Parameters	Description	Value
Function of the "Scene" (scene extension) rocker	This parameter assigns a scene number to the rocker in the "Scene" function. A distinction is made here between the function when pressing the rocker left/right.	Scene number, left button (1*-64) Scene number, right button (1*-64)
Function of the "Scene" (scene extension) push-button	This parameter assigns a scene number to the push-button in the "Scene" function when the button is pressed.	Scene number (1*-64)
Scene memorisation by long key-press [1]	A changed scene can be saved again by activating this function by ticking the box.	

Table 34: Function of the "Scene" rocker/independent push-button

[1] *Scene memorisation is confirmed by the flashing of the respective status LED of the button (1 second).*

If the parameters of a scene are changed by the device, the new scene parameters can be saved by a long press of the button.

* Default value

"Scene" communication objects (rocker)

No.	Name	Object function	Length	Data type
22, 62, 102.142	Rocker x-y	Scene	1 byte	18.001 DPT_Scene control

"Scene" communication objects (independent push-button)

No.	Name	Object function	Length	Data type
22, 42, 62, 82, 102.122 142.162	Button x	Scene	1 byte	18.001 DPT_Scene control

Example: scene memorisation procedure

- Switch on scene (in this example "Scene TV") by briefly pressing the button (Bild 30, A-1)

  Scene is activated e.g., lighting dimmed to 30%, blind closed to 85%)

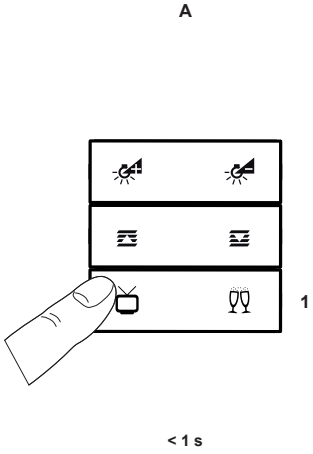


Figure 31: Scene call-up

Set and save new scene parameters on the push-button.

- Change lighting intensity, dim up or down (Bild 30, B-1)
- Change, open or close blind position (Bild 30, B-2)

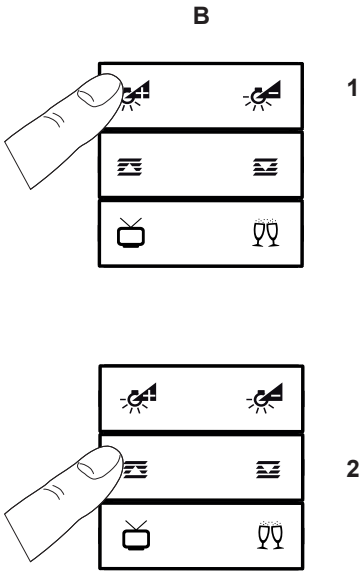


Figure 32: Setting new scene parameters

- Hold the button for "Scene TV" for longer than 5 s (Bild 30, C-1)

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

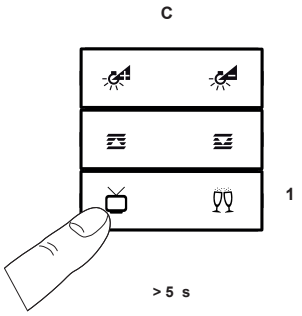


Figure 33: Saving new scene parameters

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

4.12"2-channel mode" function

The different function variants of the "2-channel mode function" for the independent button and the rocker are presented and described in the parameter window below.

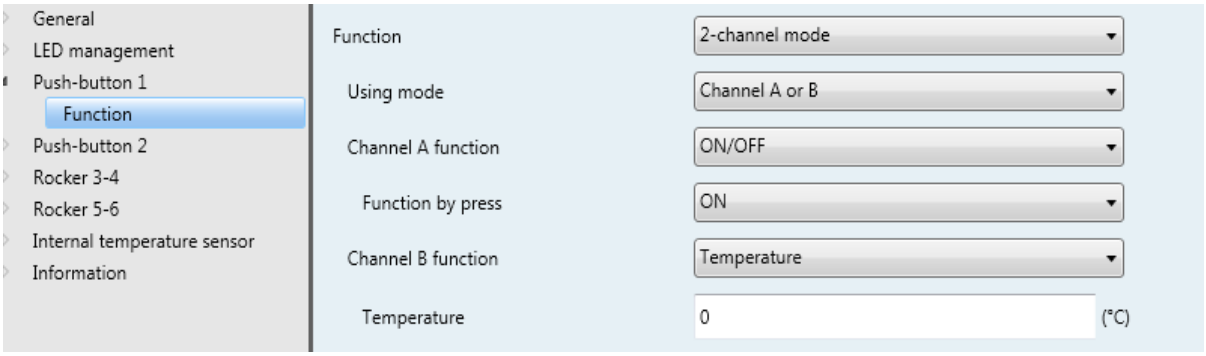


Figure 34: "2-channel mode function" parameter

The “2-channel mode” (2-channel operation) enables two functions to be executed and transmitted to the KNX via different communication objects using the same independent push-button or rocker side.

As a result, the selected rocker/independent push-button is assigned an additional second channel. This means, for example, that different light channels can be switched on or off, or set to a brightness value without needing to configure a scene.

Parameters	Description	Value
Using mode of the independent push-button/rocker	This parameter sets the using mode for the rocker side/ independent push-button.	**Channel A or B*** Channel A and B
Channel A function Channel B function	This parameter sets the respective function of the independent push-button/rocker side for channel A and channel B.	**ON/OFF *** Value 1 byte Percentage (0-100 %) Temperature Brightness Value 2 bytes
ℹ Depending on the function selection, the corresponding value must be set in an additional parameter.		

Table 35: Function of the “2-channel mode” rocker/button

Channel A or B using mode:

In this using mode, a key-press always only triggers one of the two set channel functions.

This means that the function stored for channel A (light ON, for example) is triggered by a short key-press and the function stored for channel B (temperature 21°C, for example) is triggered by a long key-press.

The press duration used to differentiate between a short and a long key-press can be defined in settings „General → Parameters“ (from 500 ms to 10 s).

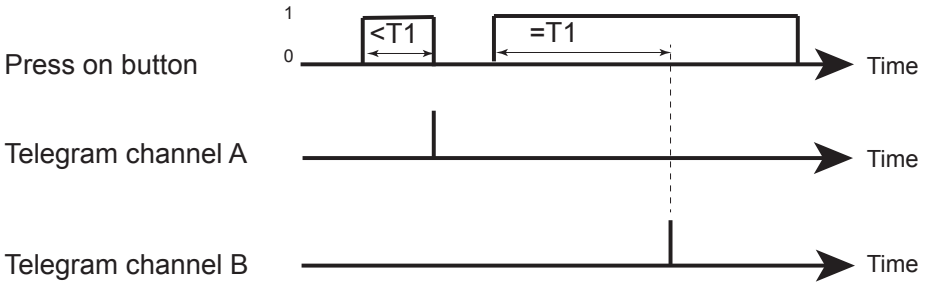


Figure 35: Channel 1 or Channel 2 operating concept

T1: Time between channel A and channel B

Channel A and B using mode:

In this using mode, a short key-press triggers the channel A and a long key-press will trigger first the channel A and then the channel B.

This means that the function stored for channel A (light ON, for example) and the function stored for channel B (temperature 21°C, for example) are transmitted to the KNX with the same key-press.

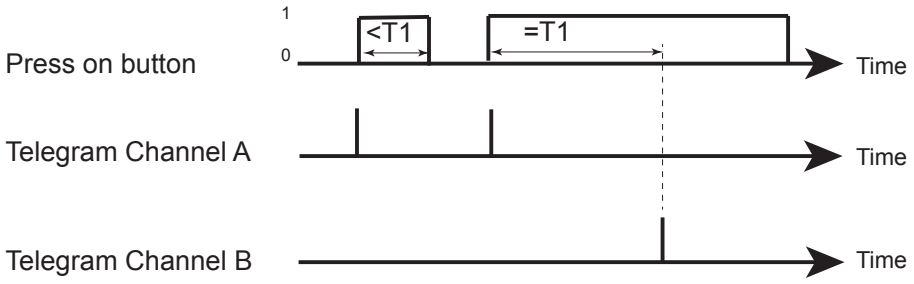


Figure 36: Channel 1 and Channel 2 operating concept

T1: Time between channel A and channel B

ℹ This function is used if one or more functions are to be switched additionally on one push-button (not enough operating sections on the device used).

Only the „ON/OFF“, „Value 1 byte/2 bytes“, „Temperature value“, „Brightness value“ and „Percentage value“ functions are available in this operation mode.

Parameters	Description	Value
Function when the individual push-button is pressed	When the "ON/OFF" function is selected, the following values are available for the independent push-button.	Not active * OFF **ON *** Toggle switch
Function when the rocker is pressed right/left	When the "ON/OFF" function is selected, the following values are available for the rocker side.	Not active * OFF **ON *** Toggle switch
Value (0-255)	When the "Value 1 byte" function is selected, a value for the rocker side/independent push-button of 0- 255 can be set.	**0** *... 255
Percentage (0-100 %)	When the "Percentage (0-100 %)" function is selected, a percentage value for the rocker side/ independent push-button of 0- 100 % can be set using the slidebar.	**0** *... 100%
Temperature	When the "Temperature" function is selected, a value for the rocker side/independent push-button of 0- 40°C can be set.	**0** *... 40°C
Brightness value	When the "Brightness" function is selected, a value for the rocker side/independent push-button of 0- 1000 Lux can be set.	**0** *... 1000 Lux
Value (0-65535)	When the "Value 2 bytes" function is selected, a value for the rocker side/independent push-button of 0- 65535 can be set.	**0** *... 65535

Table 36: Function of the "2-channel mode" rocker/button

* Default value

"2-channel mode" communication objects (rocker)

No.	Name	Object function	Length	Data type
18.58 98.138	Rocker x-y	Channel A ON/OFF	1 bits	1.001 DPT_ON/OFF
26.66 106.146		Channel B ON/OFF	1 bits	1.001 DPT_ON/OFF
22.62, 102.142	Rocker x-y	Channel A value (0-255)	1 byte	5.010 DPT_Counting pulse
27.67, 107.147		Channel B value (0-255)	1 byte	5.010 DPT_Counting pulse
22.62, 102.142	Rocker x-y	Channel A value (%)	1 byte	5.010 DPT_Percentage (%)
27.67, 107.147		Channel B value (%)	1 byte	5.010 DPT_Percentage (%)
24.64, 104.144	Rocker x-y	Channel A value (temperature)	2 byte	9.001 DPT_Temperature (°C)
28.68, 108.148		Channel B value (temperature)	2 byte	9.001 DPT_Temperature (°C)
24.64, 104.144	Rocker x-y	Channel A value (brightness)	2 byte	9.004 DPT_Lux (Lux)
28.68, 108.148		Channel B value (brightness)	2 byte	9.004 DPT_Lux (Lux)
24.64, 104.144	Rocker x-y	Channel A value (0-65535)	2 byte	7.001 DPT_Pulse
28.68, 108.148		Channel B value (0-65535)	2 byte	7.001 DPT_Pulse

"2-channel mode" communication objects (independent push-button)

No.	Name	Object function	Length	Data type
18.38 58.78 98.118 138.158	Button x	Channel A ON/OFF	1 bits	1.001 DPT_ON/OFF
26.46, 66.86 106.126 146.166		Channel B ON/OFF	1 bits	1.001 DPT_ON/OFF
22.42, 62, 82 102.122 142.162	Button x	Channel A value (0-255)	1 byte	5.010 DPT_Counting pulse
27.47, 67, 87 107.127 147.167		Channel B value (0-255)	1 byte	5.010 DPT_Counting pulse
22.42, 62, 82 102.122 142.162	Button x	Channel A value (%)	1 byte	5.010 DPT_Percentage (%)
27.47, 67, 87 107.127 147.167		Channel B value (%)	1 byte	5.010 DPT_Percentage (%)
24.44, 64, 84, 104.124 144164	Button x	Channel A value (temperature)	2 byte	9.001 DPT_Temperature (°C)
28.48, 68, 88, 108.128 148.168		Channel B value (temperature)	2 byte	9.001 DPT_Temperature (°C)
24.44, 64, 84, 104.124 144164	Button x	Channel A value (brightness)	2 byte	9.004 DPT_Lux (Lux)
28.48, 68, 88, 108.128 148.168		Channel B value (brightness)	2 byte	9.004 DPT_Lux (Lux)
24.44, 64, 84, 104.124 144164	Button x	Channel A value (0-65535)	2 byte	7.001 DPT_Pulse
28.48, 68, 88, 108.128 148.168		Channel B value (0-65535)	2 byte	7.001 DPT_Pulse

4.13"Step switch" function“

In the following parameter window, the respective function and selection options of the "Step switch" function are displayed and configured.

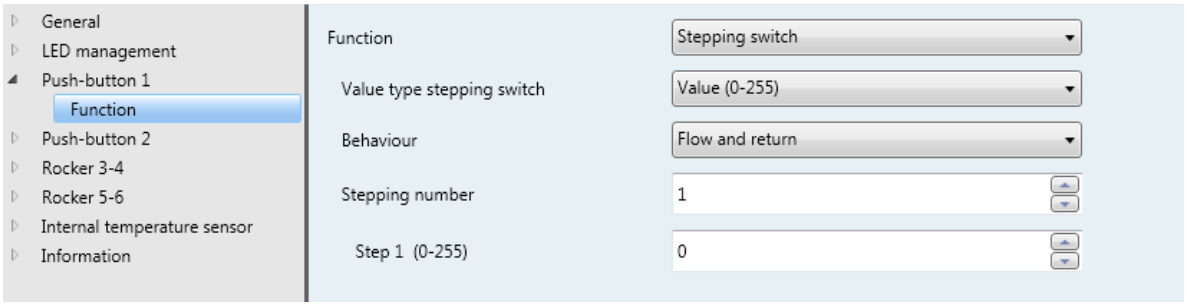


Figure 37: "Step switch" function“

General:

This "Stepping switch" function allows for up to 7 different telegrams to be configured for a function (for example, value 0-255, value %, scene 1-64). Repeatedly pressing the same independent push-button or rocker also calls up the individual steps.

A defined behaviour for the independent push-button operation (pass through, flow and return, see Fig. 35 and 36) and rocker operation (Up/Down incremental and Down/Up incremental, see Fig. 33 and 34) can also be generated for the calling up of the values.

Parameters	Description	Value
Value type stepping switch	In this parameter, the "Stepping switch" function is assigned the corresponding value.	**Value (0-255) *** Value (%) Scene
Performance	This parameter defines the behaviour for the stepping switch when the button is pressed.	**Pass through *** Flow and return
Behaviour when pressed (left/right)	This parameter defines the behaviour for the stepping switch when the rocker is pressed left/ right.	**Up/Down *** Down/Up
Stepping number [4]	This parameter defines the number of steps for the button.	**1 *** ... 7
Step x (0-255) [1,4]	This parameter sets the step value that is transmitted to the bus with each key-press.	**0 *** ... 255
Step x (0-100 %) [2,4]	This parameter sets the step value that is transmitted to the bus with each key-press.	**0 *** ...100%
Step x (scene 1-64) [3,4]	This parameter sets the step value that is transmitted to the bus with each key-press.	**1 *** ... 64

Table 37: Function of the "Stepping switch" rocker/independent push-button

[1] *This parameter is visible when "Value (0-255)" is selected.*

[2] *This parameter is visible when "Value (%)" is selected.*

[3] *This parameter is visible when "Scene" is selected.*

[4] *The individual steps 1-x are visible and adjustable depending on the amount of steps in the "Stepping number" parameter. There are a maximum of seven steps.*

* Default value

"Stepping switch" communication objects (rocker)

No.	Name	Object function	Length	Data type
22, 62, 102.142	Rocker x-y	Value (0-255)	1 byte	5.010 DPT_Counting pulse (0-255)
22, 62, 102.142	Rocker x-y	Value in %	1 byte	5.001 DPT_Percentage (0-100 %)
22, 62, 102.142	Rocker x-y	Scene	1 byte	18.001 DPT_Scene control

"Stepping switch" communication objects (independent push-button)

No.	Name	Object function	Length	Data type
22, 42, 62, 82, 102.122 142.162	Button x	Value (0-255)	1 byte	5.010 DPT_Counting pulse (0-255)
22, 42, 62, 82, 102.122 142.162	Button x	Value in %	1 byte	5.001 DPT_Percentage (0-100 %)
22, 42, 62, 82, 102.122 142.162	Button x	Scene	1 byte	18.001 DPT_Scene control

Data point type	Value type	Data point size	Value range limit
DPT 5.001	*Percentage value*	*1 byte*	*[0 … 100%]*
DPT 5.010	*Integer value*	*1 byte*	*[0 … 255]*
DPT 18.001	*Scene*	*1 byte*	*[1 … 64]*

Table 38: Stepping switch value processing

4.13.1 Behaviour during rocker operation

The first setting in the rocker configuration is the selection of the respective function or value range for the entire rocker (left and right).

Then the possible behaviour for calling up the individual step values when the rocker is pressed is set (Bild 36)

The following modes of operation are possible:

A. Left = increment
Right = decrement

B. Left = decrement
Right = increment

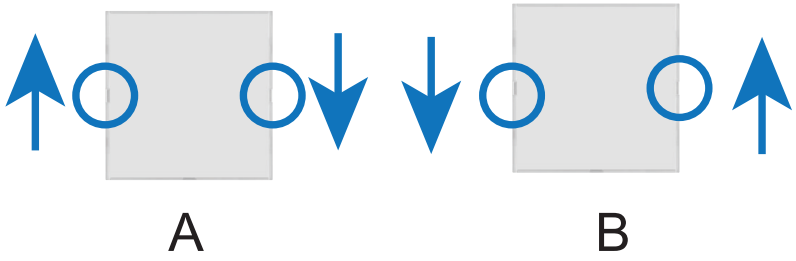


Figure 38: Rocker function selection

In the next step, the possible number of steps (values) must be selected. A maximum of 7 steps for each rocker can be configured. There are a maximum of seven steps (1, 2, 3, 4, 5, 6, 7).

Once the possible number of steps has been selected, the individual value ranges for each step are parameterised on an individual basis. The possible value ranges can be found in ""„Table 38: Stepping switch value processing"".

Example: setting the value using the stepping switch in rocker configuration

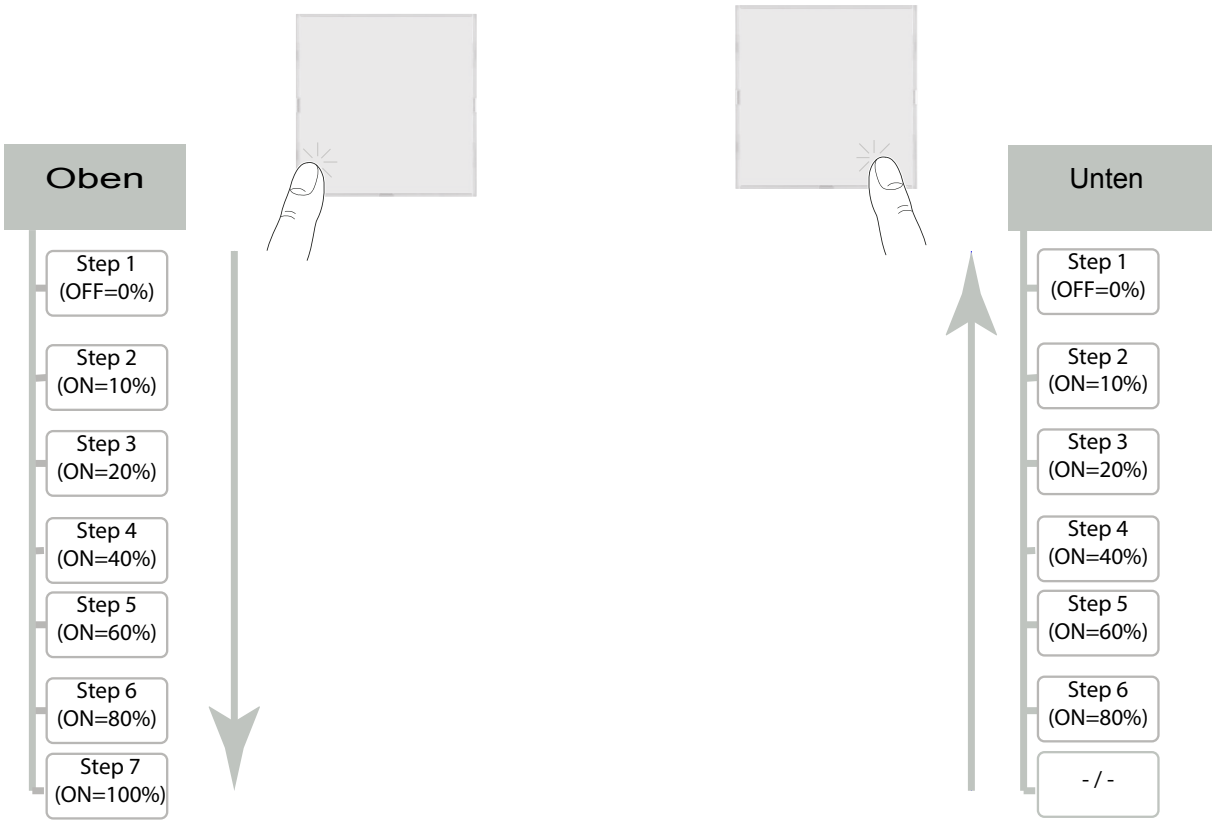


Figure 39: Stepping switch function

Example: "pass through" step principle

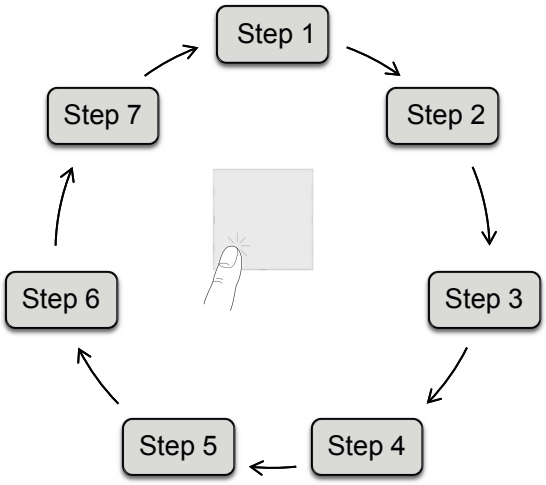


Figure 40: "Pass through" stepping switch function

Example: "Flow and return" step principle

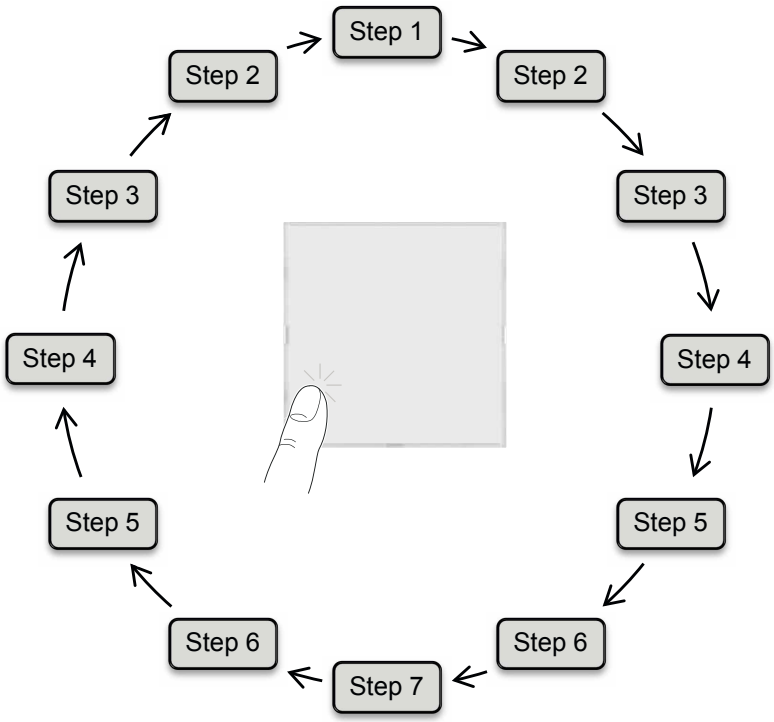


Figure 41: "Flow and return" stepping switch function

4.14"Deactivate automatic functions" function

The "deactivate automatic functions" function is described and presented in the following section.

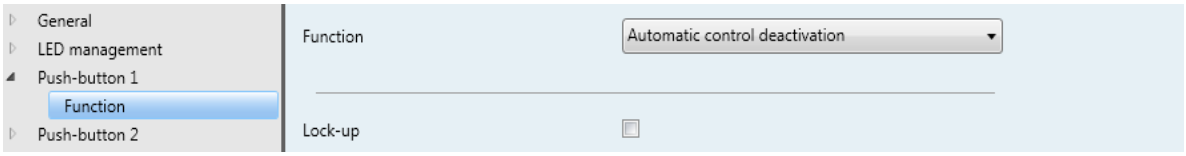


Figure 42: "Automatic control deactivation" parameter

"Automatic control" communication objects (rocker)

No.	Name	Object function	Length	Data type
13, 53, 93, 133	Rocker x-y	Automatic control deactivation status	1 bits	1.003 DPT_Enable
18, 58, 98, 138	Rocker x-y	Deactivate automatic	1 bits	1.003 DPT_Enable

"Priority" communication objects (independent push-button)

No.	Name	Object function	Length	Data type
13.33, 53, 73 93.113, 133.153	Button x	Automatic control deactivation status	1 bits	1.003 DPT_Enable
18.38, 58, 78 98.118, 138.158	Button x	Deactivate automatic	1 bits	1.003 DPT_Enable

With this1-bit communication object automatic sequences already running in the actuators can be deactivated, switched off.

Example: time-dependent outside lighting ON/OFF

The outside lighting is switched on and off at a certain time every day of the week.
However, on certain occasions (garden parties) the outside lighting should stay on for longer. In such cases, the "Automatic control deactivation" function is used to deactivate/ switch off the time-dependent switching on/off of the outside lighting. To do so, a 1-bit command is transmitted to the bus.

5. "Temperature sensor" function parameters

In this following section, the configuration and parameterisation of the internal and external temperature sensors are described and presented.

ℹ Both temperature sensors can be activated/deactivated independently from one another, which means that they can also be parameterised separately.

5.1 Internal temperature sensor

The user module is directly fitted with a sensor for temperature measurement.

The temperature measured can therefore be transmitted to the bus depending on the parameters shown below (see Bild 41).

ℹ The measured room air can, for example, be transmitted directly to a KNX thermostat as a second measuring point (measurement result) and can be used to synchronise the global actual temperature (synchronisation in larger rooms).

ℹ Room temperature recorded as a measurement result for a building visualisation

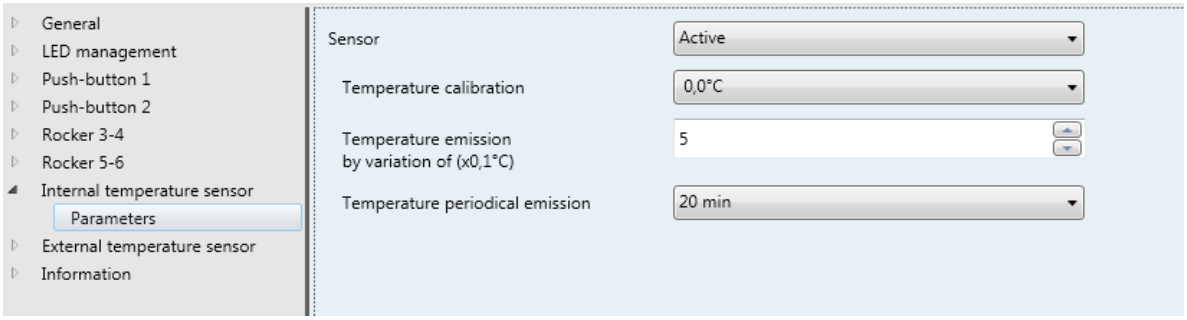


Figure 43: Internal temperature sensor function parameters

5.2 External temperature sensor

The external temperature sensor is a cable-based remote sensor (EK090) that can be connected to the bus application unit (8004 00 01) directly. The temperature measured can therefore be transmitted to the bus depending on the parameters shown below (see Bild 42).

ℹ The measured remote sensor temperature can also be transmitted directly to a KNX thermostat as a second measuring point (measurement result) and can be used to synchronise the floor temperature (synchronisation in larger rooms), for example.

ℹ The ambient temperature, for example, recorded as the measurement result when the push-button is installed in an unfavourable location (outside, etc.).

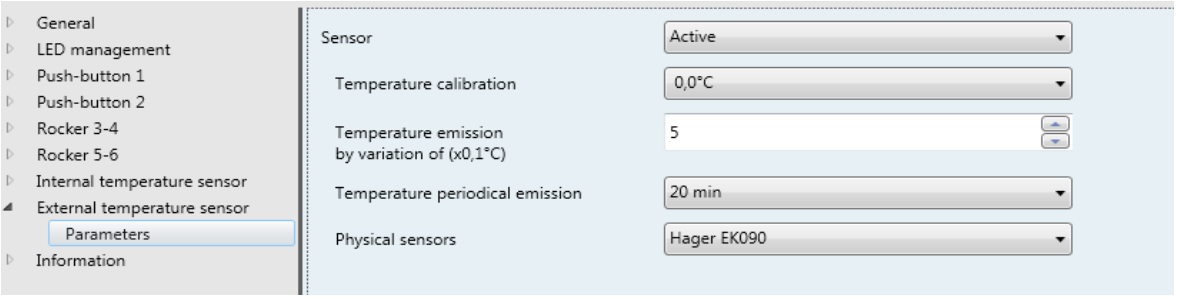


Figure 44: External temperature sensor function parameters

Parameters	Description	Value
Sensor	This parameter first decides whether the temperature sensor remains activated or deactivated.	**Not active** * Active
Temperature calibration [1]	With this parameter the difference between the measured temperature on the device and the measured temperature is adjusted by a reference measuring device. "Calibration of the temperature sensor"	-5°C - **0°C** * - +5°C
Temperature emission by variation of (x 0,1°C) [1]	This parameter defines at what temperature difference a new value is automatically transmitted to the bus. Should be transmitted (time-independently).	0 …**5** *… 255
Temperature periodical transmission [1]	This parameter defines in which cycle the actual value is compared with the setpoint and should be transmitted to the bus.	Not active 10 s - **20 min** * - 30 min
Physical sensors [2]	This parameter enables the selection of the corresponding temperature sensor.	**Hager EK090** *

Table 39: Internal/external temperature sensor function parameters

[1] These parameters are only visible when the "Sensor" parameter is set to "Active".

[2] This parameter is also visible in the external temperature sensor settings.

* Default value

"Internal temperature sensor" communication objects

No.	Name	Object function	Length	Data type
172	Internal temperature sensor	Internal temperature sensor	2 byte	9.001 DPT_Temperature (°C)

"External temperature sensor" communication objects

No.	Name	Object function	Length	Data type
173	External temperature sensor	External temperature sensor	2 byte	9.001 DPT_Temperature (°C)

When selecting the installation site of the device or external sensor, the following points should be taken into consideration:

- Integrating the push-button into multiple combinations should be avoided especially when a flush-mounted dimmer is also installed.
- The sensors should not be installed near to large electrical consumers (heat radiation).
- The device/sensor should not be installed near to heaters or cooling systems.
- The temperature sensor must be kept out of direct sunlight.
- Installing sensors on the inside of external walls may negatively influence the temperature measurement.
- Temperature sensors should be installed at least 30 cm away from doors and windows and at least 1.5 m above the floor.

The room temperature is only actually controlled using the thermostat.

6. "Information" parameter window

This parameter window specifies which application, database version and translation version the deployed device works with.

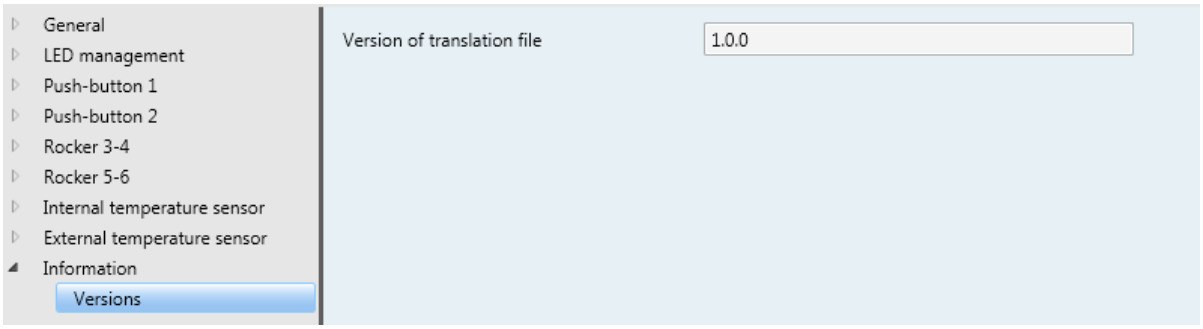


Figure 45: "Information" parameter window

7. Communication objects

7.1 "General" communication objects

7.1.1 Blocking function

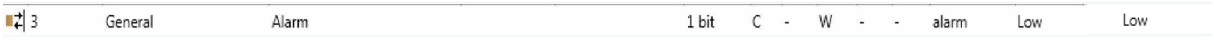


Figure 46: "General - Lock-up" communication objects

No.	Name	Object function	Length	Data type	Flags
4	General	Blocking function	1 bits	DPT_Status	C, W
This object is always visible but must be activated for each independent push-button/rocker separately. This object enables the locking-up of another independent push-button/rocker; a 0/1 is transmitted to the respective lock-up object of the other device or the independent push-button/rocker is locked-up by another device when a 0/1 is received. For further information see „3.1 Blocking function“					

7.1.2 "Alarm" communication object

Figure 47: "Alarm" communication object

No.	Name	Object function	Length	Data type	Flags
3	General	Alarm	1 bits	DPT_Status	C, W
This object is visible when the alarm function is activated under "General - Alarm". This object enables the emission of an alarm message. The alarm message can, for example, come via a KNX networked room alarm system. For further information see „3.4 Alarm“.					

7.2 Status LED communication objects

7.2.1 "Direction LED ON/OFF" colour and brightness

5	LED management	Day/night	1 bit	K	-	S	-	-			Niedrig
6	LED management	Device LED - ON/OFF	1 bit	K	-	S	-	-	Schalten		Niedrig
7	LED management	Direction LED - status indication	1 bit	K	-	S	Ü	A	Schalten		Niedrig
8	LED management	Direction LED - dimming value day	1 Byte	K	-	S	-	-	Prozent (0..100%)		Niedrig
9	LED management	Status LED - luminosity day	1 Byte	K	-	S	-	-	Prozent (0..100%)		Niedrig
10	LED management	Direction LED - dimming value night	1 Byte	K	-	S	-	-	Prozent (0..100%)		Niedrig
11	LED management	Status LED - luminosity night	1 Byte	K	-	S	-	-	Prozent (0..100%)		Niedrig

Figure 48: "LED management" communication objects

No.	Name	Object function	Length	Data type	Flags
5	LED management	Day/Night	1 bits		C, W
6	LED management	Device LED ON/OFF	1 bits	DPT_Switching	C, W
7	LED management	Direction LED status indication	1 bits	DPT_Switching	C, W
These objects are visible when the "LED management" function is activated under "LED management - General". This object enables the device LEDs to be permanently switched on/off. For further information see „3.5 „LED management“ parameters“.					

7.2.2 Change of brightness value through object

No.	Name	Object function	Length	Data type	Flags
8	LED management	Direction LED – dimming value day	1 byte	DPT_Percentage (0-100 %)	C, W
9	LED management	Status LED – brightness day	1 byte	DPT_Percentage (0-100 %)	C, W
10	LED management	Direction LED – dimming value night	1 byte	DPT_Percentage (0-100 %)	C, W
11	LED management	Status LED – brightness night	1 byte	DPT_Percentage (0-100 %)	C, W
These objects are visible when the "Change of brightness value through object" function is activated under "LED management - General". These objects enable the changing of the status LED brightness value for daytime and nighttime operation. For further information see „3.5 „LED management“ parameters“.					

7.2.3 "Independent push-button/rocker status LED" communication objects

12	Push-button 1	Separately LED object	1 bit	C	-	W	T	U	switch	Low
32	Push-button 2	Separately LED object	1 bit	C	-	W	T	U	switch	Low
71	Push-button 3	Status LED - 1 byte unsigned	1 Byte	C	-	W	T	U	counter pulses (0..255)	Low
90	Push-button 4	Status LED - 2 bytes unsigned	2 Byte	C	-	W	T	U	pulses	Low
111	Push-button 5	Status LED - 1 byte signed	1 Byte	C	-	W	T	U	counter pulses (-128..1	Low
130	Push-button 6	Status LED - 2 bytes signed	2 Byte	C	-	W	T	U	pulses difference	Low

Figure 49: "Independent push-button/rocker status LED" communication objects

No.	Name	Object function	Length	Data type	Flags
12, 52, 92.132	Rocker x	Separate LED object	1 bits	DPT_Switching	C, W, T, U
12.32, 52.72, 92.112, 132.152	Button x				
31.71, 111.151	Rocker x	Status LED – 1 byte unsigned	1 byte	DPT_Counting pulse	C, W, T, U
31.51, 71.91, 111.131, 151.171	Button x				
30.70, 110.15	Rocker x	Status LED – 2 bytes unsigned	2 byte	DPT_Pulse	C, W, T, U
30.50, 70.90, 110.13 150.17	Button x				
31.71, 111.151	Rocker x	Status LED – 1 byte signed	1 byte	DPT_Counting pulse	C, W, T, U
31.51, 71.91, 111.131, 151.171	Button x				
30.70, 110.15	Rocker x	Status LED – 2 bytes signed	2 byte	DPT_Pulse	C, W, T, U
30.50, 70.90, 110.13 150.17	Button x				

These objects are activated when the status LED parameters are set in the parameters for each independent push-button/rocker. The "Status LED colour concept" parameter under "LED management" must be set to "Individual".

These objects (31, 51 ,71 ,91 ,111 ,131 ,151 ,171 / 30, 50, 70, 90, 110, 130, 150, 170) allow the return of the status value for the respective switching command. The return of the status value is used for switching an actuator channel by two buttons in toggle mode.

These objects (12, 32, 52, 72, 92, 112, 132, 152, 172) can be switched by an external switching command.

For further information see „3.5 „LED management“ parameters“.

7.3 "Independent push-button/rocker" communication objects

7.3.1 Toggle switch

13	Rocker 1-2	Status indication ON/OFF	1 bit	C	-	W	T	U	switch	Low
18	Rocker 1-2	ON/OFF	1 bit	C	-	-	T	-	switch	Low
53	Rocker 3-4	Status indication ON/OFF	1 bit	C	-	W	T	U	switch	Low
58	Rocker 3-4	ON/OFF	1 bit	C	-	-	T	-	switch	Low
93	Rocker 5-6	Status indication ON/OFF	1 bit	C	-	W	T	U	switch	Low
98	Rocker 5-6	ON/OFF	1 bit	C	-	-	T	-	switch	Low

Figure 50: Rocker "Toggle switch" communication object

13	Push-button 1	Status indication ON/OFF	1 bit	C	-	W	T	U	switch	Low
18	Push-button 1	ON/OFF	1 bit	C	-	-	T	-	switch	Low
33	Push-button 2	Status indication ON/OFF	1 bit	C	-	W	T	U	switch	Low
38	Push-button 2	ON/OFF	1 bit	C	-	-	T	-	switch	Low
53	Push-button 3	Status indication ON/OFF	1 bit	C	-	W	T	U	switch	Low
58	Push-button 3	ON/OFF	1 bit	C	-	-	T	-	switch	Low
73	Push-button 4	Status indication ON/OFF	1 bit	C	-	W	T	U	switch	Low
78	Push-button 4	ON/OFF	1 bit	C	-	-	T	-	switch	Low
93	Push-button 5	Status indication ON/OFF	1 bit	C	-	W	T	U	switch	Low
98	Push-button 5	ON/OFF	1 bit	C	-	-	T	-	switch	Low
113	Push-button 6	Status indication ON/OFF	1 bit	C	-	W	T	U	switch	Low
118	Push-button 6	ON/OFF	1 bit	C	-	-	T	-	switch	Low

Figure 51: Independent push-button "Toggle switch" communication object

<table>
<tr><th>No.</th><th>Name</th><th>Object function</th><th>Length</th><th>Data type</th><th>Flags</th></tr>
<tr><td>13, 53, 93.133</td><td>Rocker x</td><td rowspan="2">ON/OFF status indication</td><td rowspan="2">1 bits</td><td rowspan="2">DPT_Switching</td><td rowspan="2">C, W, T, U</td></tr>
<tr><td>13.33, 53.73, 93.113, 133.153</td><td>Button x</td></tr>
<tr><td>18, 58, 98.138</td><td>Rocker x</td><td rowspan="2">Switching</td><td rowspan="2">1 bits</td><td rowspan="2">DPT_Switching</td><td rowspan="2">C, T</td></tr>
<tr><td>18.38 58.78, 98.118, 138.158</td><td>Button x</td></tr>
<tr><td colspan="6">These objects are activated when the "Toggle switch" function is selected in the parameters for each independent push-button/rocker.
These objects (13, 33, 53, 73, 93, 113, 133, 153) allow the return of the status value for the respective switching command. The return of the status value is used for switching an actuator channel by two buttons in toggle mode.
These objects (18, 38, 58, 78, 98, 118, 138, 158) transmit a 1-bit command to the actuator channel and trigger a switching command when the button is pressed.
For further information see „4.2 „Toggle switch“ function“.</td></tr>
</table>

7.3.2 Switching

18	Rocker 1-2	ON/OFF	1 bit	C	-	-	T	-	switch	Low
58	Rocker 3-4	ON/OFF	1 bit	C	-	-	T	-	switch	Low
98	Rocker 5-6	ON/OFF	1 bit	C	-	-	T	-	switch	Low

Figure 52: Rocker "ON/OFF" communication object

18	Push-button 1	ON/OFF	1 bit	C	-	-	T	-	switch	Low
38	Push-button 2	ON/OFF	1 bit	C	-	-	T	-	switch	Low
58	Push-button 3	ON/OFF	1 bit	C	-	-	T	-	switch	Low
78	Push-button 4	ON/OFF	1 bit	C	-	-	T	-	switch	Low
98	Push-button 5	ON/OFF	1 bit	C	-	-	T	-	switch	Low
118	Push-button 6	ON/OFF	1 bit	C	-	-	T	-	switch	Low

Figure 53: Button "ON/OFF" communication object

No.	Name	Object function	Length	Data type	Flags
18, 58, 98.138	Rocker x	Switching	1 bits	DPT_Switching	C, T
18.38 58.78, 98.118, 138.158	Button x				
These objects are activated when the "ON/OFF" function is selected in the parameters for each independent push-button/rocker. These objects (18, 38, 58, 78, 98, 118, 138, 158) transmit a 1-bit command to the actuator channel and trigger a switching command when the button is pressed. For further information see „4.3 „ON/OFF“ function“.					

7.3.3 Dimming

18	Rocker 1-2	ON/OFF	1 bit	C	-	-	T	-	switch	Low
21	Rocker 1-2	Dimming	4 bit	C	-	-	T	-	dimming control	Low
58	Rocker 3-4	ON/OFF	1 bit	C	-	-	T	-	switch	Low
61	Rocker 3-4	Dimming	4 bit	C	-	-	T	-	dimming control	Low
98	Rocker 5-6	ON/OFF	1 bit	C	-	-	T	-	switch	Low
101	Rocker 5-6	Dimming	4 bit	C	-	-	T	-	dimming control	Low

Figure 54: Rocker "Dimming - ON/OFF" communication object

18	Push-button 1	ON/OFF	1 bit	C	-	-	T	-	switch	Low
21	Push-button 1	Dimming	4 bit	C	-	-	T	-	dimming control	Low
38	Push-button 2	ON/OFF	1 bit	C	-	-	T	-	switch	Low
41	Push-button 2	Dimming	4 bit	C	-	-	T	-	dimming control	Low
58	Push-button 3	ON/OFF	1 bit	C	-	-	T	-	switch	Low
61	Push-button 3	Dimming	4 bit	C	-	-	T	-	dimming control	Low
78	Push-button 4	ON/OFF	1 bit	C	-	-	T	-	switch	Low
81	Push-button 4	Dimming	4 bit	C	-	-	T	-	dimming control	Low
98	Push-button 5	ON/OFF	1 bit	C	-	-	T	-	switch	Low
101	Push-button 5	Dimming	4 bit	C	-	-	T	-	dimming control	Low
118	Push-button 6	ON/OFF	1 bit	C	-	-	T	-	switch	Low
121	Push-button 6	Dimming	4 bit	C	-	-	T	-	dimming control	Low

Figure 55: Button "Dimming - ON/OFF" communication object

No.	Name	Object function	Length	Data type	Flags
18, 58, 98.138	Rocker x	Switching	1 bits	DPT_Switching	C, T
18.38 58.78, 98.118, 138.158	Button x				
21.61, 101.141	Rocker x	Dimming	4 bits	DPT_Switching	C, T
21.41 61.81, 101.121 141.161	Button x				
These objects are activated when the "Dimming - Increase (ON)/Decrease (OFF)" function is selected in the parameters for each independent push-button/rocker. The objects (18, 38, 58, 78, 98, 118, 138, 158) transmit a 1-bit command to the dimmer actuator channel and trigger a switching command and the objects (21, 41, 61, 81, 101, 121, 141, 161) transmit a 4-bit command to the dimmer actuator channel and trigger a dimming command when the button is pressed. For further information see „4.4 „Dimming“ Function“.					

13	Rocker 1-2	Status indication ON/OFF	1 bit	C	-	W	T	U	switch	Low
18	Rocker 1-2	ON/OFF	1 bit	C	-	-	T	-	switch	Low
21	Rocker 1-2	Dimming	4 bit	C	-	-	T	-	dimming control	Low
53	Rocker 3-4	Status indication ON/OFF	1 bit	C	-	W	T	U	switch	Low
58	Rocker 3-4	ON/OFF	1 bit	C	-	-	T	-	switch	Low
61	Rocker 3-4	Dimming	4 bit	C	-	-	T	-	dimming control	Low
93	Rocker 5-6	Status indication ON/OFF	1 bit	C	-	W	T	U	switch	Low
98	Rocker 5-6	ON/OFF	1 bit	C	-	-	T	-	switch	Low
101	Rocker 5-6	Dimming	4 bit	C	-	-	T	-	dimming control	Low

Figure 56: Rocker "Dimming - Toggle switch" communication object

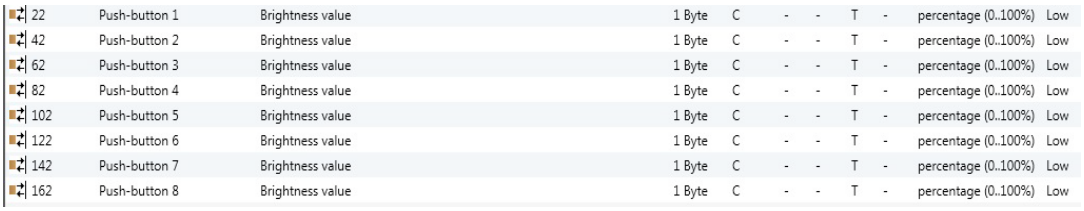
13	Push-button 1	Status indication ON/OFF	1 bit	C	-	W	T	U	switch	Low
18	Push-button 1	ON/OFF	1 bit	C	-	-	T	-	switch	Low
21	Push-button 1	Dimming	4 bit	C	-	-	T	-	dimming control	Low
33	Push-button 2	Status indication ON/OFF	1 bit	C	-	W	T	U	switch	Low
38	Push-button 2	ON/OFF	1 bit	C	-	-	T	-	switch	Low
41	Push-button 2	Dimming	4 bit	C	-	-	T	-	dimming control	Low
53	Push-button 3	Status indication ON/OFF	1 bit	C	-	W	T	U	switch	Low
58	Push-button 3	ON/OFF	1 bit	C	-	-	T	-	switch	Low
61	Push-button 3	Dimming	4 bit	C	-	-	T	-	dimming control	Low
73	Push-button 4	Status indication ON/OFF	1 bit	C	-	W	T	U	switch	Low
78	Push-button 4	ON/OFF	1 bit	C	-	-	T	-	switch	Low
81	Push-button 4	Dimming	4 bit	C	-	-	T	-	dimming control	Low
93	Push-button 5	Status indication ON/OFF	1 bit	C	-	W	T	U	switch	Low
98	Push-button 5	ON/OFF	1 bit	C	-	-	T	-	switch	Low
101	Push-button 5	Dimming	4 bit	C	-	-	T	-	dimming control	Low
113	Push-button 6	Status indication ON/OFF	1 bit	C	-	W	T	U	switch	Low
118	Push-button 6	ON/OFF	1 bit	C	-	-	T	-	switch	Low
121	Push-button 6	Dimming	4 bit	C	-	-	T	-	dimming control	Low
133	Push-button 7	Status indication ON/OFF	1 bit	C	-	W	T	U	switch	Low
138	Push-button 7	ON/OFF	1 bit	C	-	-	T	-	switch	Low
141	Push-button 7	Dimming	4 bit	C	-	-	T	-	dimming control	Low
153	Push-button 8	Status indication ON/OFF	1 bit	C	-	W	T	U	switch	Low
158	Push-button 8	ON/OFF	1 bit	C	-	-	T	-	switch	Low
161	Push-button 8	Dimming	4 bit	C	-	-	T	-	dimming control	Low

Figure 57: Button "Dimming - Toggle switch" communication object

No.	Name	Object function	Length	Data type	Flags
13.53, 93.133	Rocker x	ON/OFF status indication	1 bits	DPT_Switching	C, W, T, U
13.33, 53.73, 93.113, 133.153	Button x				
18, 58, 98.138	Rocker x	Switching	1 bits	DPT_Switching	C, T
18.38 58.78, 98.118, 138.158	Button x				
21.61, 101.141	Rocker x	Dimming	4 bits	DPT_Switching	C, T
21.41 61.81, 101.121 141.161	Button x				
These objects are activated when the "Dimming - Increase (toggle switch)/Decrease (toggle switch)" function is selected in the parameters for each independent push-button/rocker. The objects (18, 38, 58, 78, 98, 118, 138, 158) transmit a 1-bit command to the dimmer actuator channel and trigger a switching command and the objects (21, 41, 61, 81, 101, 121, 141, 161) transmit a 4-bit command to the dimmer actuator channel and trigger a dimming command when the button is pressed. The objects (13, 33, 53, 73, 93, 113, 133, 153) allow the return of the status value for the respective switching command (for linking with a status LED, for example). For further information see „4.4 “Dimming” Function“.					

22	Rocker 1-2	Brightness value	1 Byte	C	-	-	T	-	percentage (0..100%)	Low
62	Rocker 3-4	Brightness value	1 Byte	C	-	-	T	-	percentage (0..100%)	Low
102	Rocker 5-6	Brightness value	1 Byte	C	-	-	T	-	percentage (0..100%)	Low

Figure 58: Rocker "Dimming - dimming value" communication object



22	Push-button 1	Brightness value	1 Byte	C	-	-	T	-	percentage (0..100%)	Low
42	Push-button 2	Brightness value	1 Byte	C	-	-	T	-	percentage (0..100%)	Low
62	Push-button 3	Brightness value	1 Byte	C	-	-	T	-	percentage (0..100%)	Low
82	Push-button 4	Brightness value	1 Byte	C	-	-	T	-	percentage (0..100%)	Low
102	Push-button 5	Brightness value	1 Byte	C	-	-	T	-	percentage (0..100%)	Low
122	Push-button 6	Brightness value	1 Byte	C	-	-	T	-	percentage (0..100%)	Low
142	Push-button 7	Brightness value	1 Byte	C	-	-	T	-	percentage (0..100%)	Low
162	Push-button 8	Brightness value	1 Byte	C	-	-	T	-	percentage (0..100%)	Low

Figure 59: Button "Dimming - dimming value" communication object

<table>
<tr><th>No.</th><th>Name</th><th>Object function</th><th>Length</th><th>Data type</th><th>Flags</th></tr>
<tr><td>22.62,
102.142</td><td>Rocker x</td><td rowspan="2">Dimming value</td><td rowspan="2">1 byte</td><td rowspan="2">DPT_Percentage
(0-100 %)</td><td rowspan="2">C, T</td></tr>
<tr><td>22.42,
62.82,
102.122
142.162</td><td>Button x</td></tr>
<tr><td colspan="6">These objects are activated when the "Dimming - dimming value" function is selected in the parameters for each independent push-button/rocker.
The objects (22, 42, 62, 82, 102, 122, 142, 162) transmit a 1-byte command to the dimmer actuator channel and switch on the lighting at a fixed percentage value when the button is pressed.
For further information see „4.4 „Dimming“ Function“.</td></tr>
</table>

7.3.4 Shutter/blind

18	Rocker 1-2	Up/down	1 bit	C	-	-	T	-	up/down	Low
19	Rocker 1-2	Stop (short press)	1 bit	C	-	-	T	-	trigger	Low
58	Rocker 3-4	Up/down	1 bit	C	-	-	T	-	up/down	Low
59	Rocker 3-4	Stop (short press)	1 bit	C	-	-	T	-	trigger	Low
98	Rocker 5-6	Up/down	1 bit	C	-	-	T	-	up/down	Low
99	Rocker 5-6	Stop (short press)	1 bit	C	-	-	T	-	trigger	Low

Figure 60: Rocker "Shutter/blind" communication object

18	Push-button 1	Up/down	1 bit	C	-	-	T	-	up/down	Low
19	Push-button 1	Stop (short press)	1 bit	C	-	-	T	-	trigger	Low
38	Push-button 2	Up/down	1 bit	C	-	-	T	-	up/down	Low
39	Push-button 2	Stop (short press)	1 bit	C	-	-	T	-	trigger	Low
58	Push-button 3	Up/down	1 bit	C	-	-	T	-	up/down	Low
59	Push-button 3	Stop (short press)	1 bit	C	-	-	T	-	trigger	Low
78	Push-button 4	Up/down	1 bit	C	-	-	T	-	up/down	Low
79	Push-button 4	Stop (short press)	1 bit	C	-	-	T	-	trigger	Low
98	Push-button 5	Up/down	1 bit	C	-	-	T	-	up/down	Low
99	Push-button 5	Stop (short press)	1 bit	C	-	-	T	-	trigger	Low
118	Push-button 6	Up/down	1 bit	C	-	-	T	-	up/down	Low
119	Push-button 6	Stop (short press)	1 bit	C	-	-	T	-	trigger	Low

Figure 61: Button "Shutter/blind" communication object

No.	Name	Object function	Length	Data type	Flags
18.58, 98.138	Rocker x	Up/down	1 bits	DPT_Up/Down	C, T
18.38, 58.78, 98.118, 138.158	Button x				
19.59, 99.139	Rocker x	Slat Step/Stop (step)	1 bits	DPT_Step	C, T
19.39, 59.79, 99.119, 139.159	Button x				
22.62, 102.142	Rocker x	Position in %	1 byte	DPT_Percentage	C, T
22.42, 62.82, 102.122 142.162	Button x				
23.63, 103.143	Rocker x	Slat angle in %	1 byte	DPT_Percentage	C, T
23.43, 63.83, 103.123 143.163	Button x				

These objects are activated when the "Shutter/blind" function is selected in the parameters for each independent push-button/rocker.

The objects (18, 38, 58, 78, 98, 118, 138, 158) transmit a 1-bit command to the shutter/roller actuator channel and move the hanging up/down when the button is pressed.

The objects (19, 39, 59, 79, 99, 119, 139, 159) transmit a 1-bit command to the shutter/roller actuator channel and stop the shutter/blind movement or gradually change the position of the hanging.

The objects (22, 42, 62, 82, 102, 122, 142, 162) transmit a 1-byte command to the shutter/roller actuator channel and and the position of the hanging.

The objects (23, 43, 63, 83, 103, 123, 143, 163) transmit a 1-byte command to the shutter/roller actuator channel and gradually change the position of the slats.

For further information see „4.5 „Shutter/blind“ function“.

7.3.5 Timer

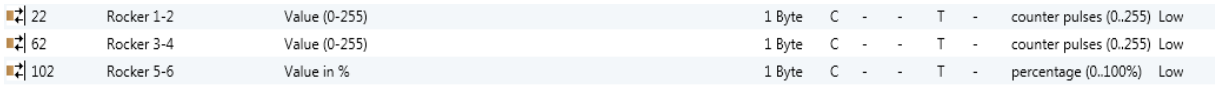
18	Push-button 1	Timer	1 bit	C	-	-	T	-	start/stop	Low
38	Push-button 2	Timer	1 bit	C	-	-	T	-	start/stop	Low
58	Push-button 3	Timer	1 bit	C	-	-	T	-	start/stop	Low
78	Push-button 4	Timer	1 bit	C	-	-	T	-	start/stop	Low
98	Push-button 5	Timer	1 bit	C	-	-	T	-	start/stop	Low
118	Push-button 6	Timer	1 bit	C	-	-	T	-	start/stop	Low

Figure 62: "Timer" communication object

The "Timer" function is only available when the using mode is as an independent push-button.

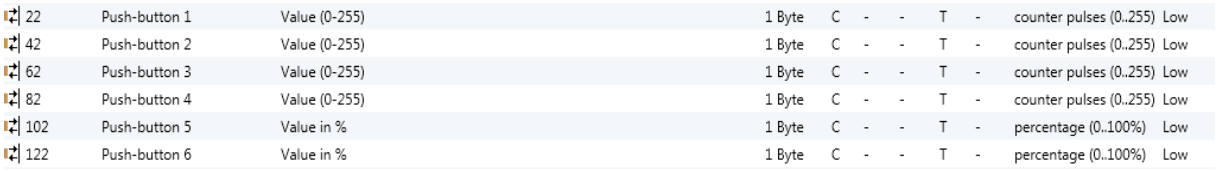
No.	Name	Object function	Length	Data type	Flags
18.38, 58.78, 98.118, 138.158	Button x	Timer	1 bits	DPT_Start/Stop	C, T
These objects are activated when the "Timer" function is selected in the parameters for each independent push-button/rocker. The objects (18, 38, 58, 78, 98, 118, 138, 158) transmit a 1-bit command to the actuator channel and start (1-command) or stop (0-command) the time set in the actuator channel when the button is pressed. This can be used, for example, to switch on the lighting in a staircase for a certain amount of time For further information see „4.6 „Timer“ function“.					

7.3.6 Value 1 byte



22	Rocker 1-2	Value (0-255)	1 Byte	C	-	-	T	-	counter pulses (0..255)	Low
62	Rocker 3-4	Value (0-255)	1 Byte	C	-	-	T	-	counter pulses (0..255)	Low
102	Rocker 5-6	Value in %	1 Byte	C	-	-	T	-	percentage (0..100%)	Low

Figure 63: Rocker "Value 1 byte" communication object



22	Push-button 1	Value (0-255)	1 Byte	C	-	-	T	-	counter pulses (0..255)	Low
42	Push-button 2	Value (0-255)	1 Byte	C	-	-	T	-	counter pulses (0..255)	Low
62	Push-button 3	Value (0-255)	1 Byte	C	-	-	T	-	counter pulses (0..255)	Low
82	Push-button 4	Value (0-255)	1 Byte	C	-	-	T	-	counter pulses (0..255)	Low
102	Push-button 5	Value in %	1 Byte	C	-	-	T	-	percentage (0..100%)	Low
122	Push-button 6	Value in %	1 Byte	C	-	-	T	-	percentage (0..100%)	Low

Figure 64: Button "Value 1 byte" communication object

No.	Name	Object function	Length	Data type	Flags
22.62, 102.142	Rocker x	Value in % Value (0-255)	1 byte	DPT_Percentage (0-100 %) DPT_Counting pulse (0-255)	C, T
22.42, 62.82, 102.122 142.162	Button x				
These objects are activated when the "Value 1 byte" function is selected in the parameters for each independent push-button/rocker. The objects (22, 42, 62, 82, 102, 122, 142, 162) transmit a 1-byte command to a switching actuator channel and switch the lighting on at a defined % value or value (0-255) when the button is pressed. For further information see „4.7 „Value 1 byte“ function“.					

7.3.7 Value 2 bytes

24	Rocker 1-2	Value (0-65535)	2 Byte	C	-	-	T	-	pulses	Low
64	Rocker 3-4	Temperature	2 Byte	C	-	-	T	-	temperature (°C)	Low
104	Rocker 5-6	Luminosity	2 Byte	C	-	-	T	-	lux (Lux)	Low

Figure 65: Rocker "Value 2 bytes" communication object

24	Push-button 1	Value (0-65535)	2 Byte	C	-	-	T	-	pulses	Low
44	Push-button 2	Value (0-65535)	2 Byte	C	-	-	T	-	pulses	Low
64	Push-button 3	Temperature	2 Byte	C	-	-	T	-	temperature (°C)	Low
84	Push-button 4	Temperature	2 Byte	C	-	-	T	-	temperature (°C)	Low
104	Push-button 5	Luminosity	2 Byte	C	-	-	T	-	lux (Lux)	Low
124	Push-button 6	Luminosity	2 Byte	C	-	-	T	-	lux (Lux)	Low

Figure 66: Button "Value 2 bytes" communication object

No.	Name	Object function	Length	Data type	Flags
24.64, 104.144	Rocker x	Value (0-65535)	2 byte	DPT_Pulse	C, T
24.44, 64.84, 104.124 144.164	Button x				
24.64, 104.144	Rocker x	Temperature	2 byte	DPT_Temperature (°C)	C, T
24.44, 64.84, 104.124 144.164	Button x				
24.64, 104.144	Rocker x	Brightness	2 byte	DPT_Lux (Lux)	C, T
24.44, 64.84, 104.124 144.164	Button x				
These objects are activated when the "Value 2 bytes" function is selected in the parameters for each independent push-button/rocker. The objects (24, 44, 64, 84, 104, 124, 144, 164 - value) transmit a 2-byte command to a switching actuator channel and switch the lighting on at a defined value when the button is pressed. The objects (24, 44, 64, 84, 104, 124, 144, 164 - temperature) transmit a 2-byte command to a thermostat and change the set temperature, for example, when the button is pressed. The objects (24, 44, 64, 84, 104, 124, 144, 164 - brightness) transmit a 2-byte command to a dimming actuator channel and switch the lighting on at a defined brightness value when the button is pressed. For further information see „4.8 „Value 2 bytes“ function“					

7.3.8 Thermostat extension

18	Rocker 1-2	Presence	1 bit	C	-	-	T	-	switch	Low
62	Rocker 3-4	Setpoint selection	1 Byte	C	-	-	T	-	HVAC mode	Low
104	Rocker 5-6	Override setpoint	2 Byte	C	-	-	T	-	temperature difference	Low
109	Rocker 5-6	Override setpoint status	2 Byte	C	-	W	T	U	temperature difference	Low

Figure 67: Rocker "Thermostat extension" communication object

22	Push-button 1	Setpoint selection	1 Byte	C	-	-	T	-	HVAC mode	Low
42	Push-button 2	Setpoint selection	1 Byte	C	-	-	T	-	HVAC mode	Low
64	Push-button 3	Override setpoint	2 Byte	C	-	-	T	-	temperature difference	Low
69	Push-button 3	Override setpoint status	2 Byte	C	-	W	T	U	temperature difference	Low
84	Push-button 4	Override setpoint	2 Byte	C	-	-	T	-	temperature difference	Low
89	Push-button 4	Override setpoint status	2 Byte	C	-	W	T	U	temperature difference	Low
93	Push-button 5	Heating/Cooling - status indication	1 bit	C	-	W	T	U	heating/cooling	Low
98	Push-button 5	Heating/Cooling - changeover	1 bit	C	-	-	T	-	heating/cooling	Low
113	Push-button 6	Heating/Cooling - status indication	1 bit	C	-	W	T	U	heating/cooling	Low
118	Push-button 6	Heating/Cooling - changeover	1 bit	C	-	-	T	-	heating/cooling	Low

Figure 68: Button "Thermostat extension" communication object

No.	Name	Object function	Length	Data type	Flags
22.62, 102.142	Rocker x	Override setpoint	1 byte	DPT_HVAC Mode	C, T
22.42, 62.82, 102.122 142.162	Button x				
13.53, 93.133	Rocker x	Heating/cooling - status indication	1 bits	DPT_heating/cooling	C, W, T, U
13.33, 53.73, 93.113, 133.153	Button x				
18.58, 98.138	Rocker x	Heating/cooling-changeover	1 bits	DPT_heating/cooling	C, T
18.38, 58.78, 98.118, 138.158	Button x				
24.64, 104.144	Rocker x	Setpoint selection	2 byte	DPT_Temperature difference (K)	C, T
24.44, 64.84, 104.124 144.164	Button x				
29.69, 109.149	Rocker x	Setpoint selection status	2 byte	DPT_Temperature difference (K)	C, W, T, U
29.49, 69.89, 109.129 149.169	Button x				

These objects are activated when the "Thermostat extension" function is selected in the parameters for each independent push-button/rocker.

The objects (22, 42, 62, 82, 102, 122, 142, 162) transmit a 1-byte command to a thermostat and change the operating mode there (comfort, standby, etc.) when the button is pressed.

The objects (13, 33, 53, 73, 93, 113, 133, 153) transmit a 1-bit command to the bus and show the "Heating or cooling" status, for example, on a display when the button is pressed.

The objects (18, 38, 58, 78, 98, 118, 138, 158) transmit a 1-bit command to a heating actuator and can therefore switch back and forth between heating and cooling mode.

The objects (24, 44, 64, 84, 104, 124, 144, 164) transmit a 2-byte command to the bus and cause the temperature setpoint in a thermostat to change when the button is pressed.

The objects (29, 49, 69, 89, 109, 129, 149, 169) transmit a 2-byte command to the bus, indicate the status of the setpoint selection and display the changed set temperature when the button is pressed.

The heating system must be equipped for heating and cooling operation.

For further information see „4.9 Function „Room thermostat extension unit“.

7.3.9 Mandatory control

13	Rocker 1-2	Status indication priority	1 bit	C	-	W	T	U	state	Low
20	Rocker 1-2	Priority	2 bit	C	-	-	T	-	boolean control	Low
53	Rocker 3-4	Status indication priority	1 bit	C	-	W	T	U	state	Low
60	Rocker 3-4	Priority	2 bit	C	-	-	T	-	boolean control	Low
93	Rocker 5-6	Status indication priority	1 bit	C	-	W	T	U	state	Low
100	Rocker 5-6	Priority	2 bit	C	-	-	T	-	boolean control	Low

Figure 69: Rocker "Priority" communication object

13	Push-button 1	Status indication priority	1 bit	C	-	W	T	U	state	Low
20	Push-button 1	Priority	2 bit	C	-	-	T	-	boolean control	Low
33	Push-button 2	Status indication priority	1 bit	C	-	W	T	U	state	Low
40	Push-button 2	Priority	2 bit	C	-	-	T	-	boolean control	Low
53	Push-button 3	Status indication priority	1 bit	C	-	W	T	U	state	Low
60	Push-button 3	Priority	2 bit	C	-	-	T	-	boolean control	Low
73	Push-button 4	Status indication priority	1 bit	C	-	W	T	U	state	Low
80	Push-button 4	Priority	2 bit	C	-	-	T	-	boolean control	Low
93	Push-button 5	Status indication priority	1 bit	C	-	W	T	U	state	Low
100	Push-button 5	Priority	2 bit	C	-	-	T	-	boolean control	Low
113	Push-button 6	Status indication priority	1 bit	C	-	W	T	U	state	Low
120	Push-button 6	Priority	2 bit	C	-	-	T	-	boolean control	Low

Figure 70: Button "Priority" communication object

<table>
<tr><th>No.</th><th>Name</th><th>Object function</th><th>Length</th><th>Data type</th><th>Flags</th></tr>
<tr><td>13.53,
93.133</td><td>Rocker x</td><td rowspan="2">Priority status display</td><td rowspan="2">1 bits</td><td rowspan="2">DPT_Status</td><td rowspan="2">C, W,
T, U</td></tr>
<tr><td>13.33
53.73,
93.113,
133.153</td><td>Button x</td></tr>
<tr><td>20.60,
100.14</td><td>Rocker x</td><td rowspan="2">Mandatory control</td><td rowspan="2">2 bits</td><td rowspan="2">DPT_Boolean control</td><td rowspan="2">C, T</td></tr>
<tr><td>20.40,
60.80,
100.12
140.16</td><td>Button x</td></tr>
<tr><td colspan="6">These objects are activated when the "Priority" function is selected in the parameters for each independent push-button/rocker.
The objects (13, 33, 53, 73, 93, 113, 133, 153) transmit a 1-bit command to the bus and show the "Priority" status, for example, on a display when the button is pressed.
The objects (20, 40, 60, 80, 100, 120, 140, 160) transmit a 2-bit command and switch an actuator channel (shutter/ blind) into forced mode (movement operation of a shutter is locked) when the button is pressed.
For further information see „4.10 „Mandatory control“ function“.</td></tr>
</table>

7.3.10 Scene

22	Rocker 1-2	Scene	1 Byte	C	-	-	T	-	scene control	Low
62	Rocker 3-4	Scene	1 Byte	C	-	-	T	-	scene control	Low
102	Rocker 5-6	Scene	1 Byte	C	-	-	T	-	scene control	Low

Figure 71: Rocker "Scene" communication object

22	Push-button 1	Scene	1 Byte	C	-	-	T	-	scene control	Low
42	Push-button 2	Scene	1 Byte	C	-	-	T	-	scene control	Low
62	Push-button 3	Scene	1 Byte	C	-	-	T	-	scene control	Low
82	Push-button 4	Scene	1 Byte	C	-	-	T	-	scene control	Low
102	Push-button 5	Scene	1 Byte	C	-	-	T	-	scene control	Low
122	Push-button 6	Scene	1 Byte	C	-	-	T	-	scene control	Low

Figure 72: Button "Scene" communication object

No.	Name	Object function	Length	Data type	Flags
22.62, 102.142	Rocker x	Scene	1 byte	DPT_Scenes Control	C, T
22.42, 62.82, 102.122 142.162	Button x				
These objects are activated when the "Scene" function is selected in the parameters for each independent push-button/rocker. The objects (22, 42, 62, 82, 102, 122, 142, 162) transmit a 1-byte command to the bus and switch on the respectively stored scene in the actuator channels (light TV 50%, shutters closed to 75%) when the button is pressed. For further information see „4.11 „Scene“ function“					

7.3.11 2-channel mode

18	Rocker 1-2	ON/OFF Channel A	1 bit	C	-	-	T	-	switch	Low
27	Rocker 1-2	Channel B value (0-255)	1 Byte	C	-	-	T	-	counter pulses (0..255)	Low
62	Rocker 3-4	Channel A value (%)	1 Byte	C	-	-	T	-	percentage (0..100%)	Low
68	Rocker 3-4	Channel B value (Temperature)	2 Byte	C	-	-	T	-	temperature (°C)	Low
104	Rocker 5-6	Channel A value (Luminosity)	2 Byte	C	-	-	T	-	lux (Lux)	Low
108	Rocker 5-6	Channel B value (Luminosity)	2 Byte	C	-	-	T	-	lux (Lux)	Low

Figure 73: Rocker "2-channel mode" communication object

18	Push-button 1	ON/OFF Channel A	1 bit	C	-	-	T	-	switch	Low
26	Push-button 1	ON/OFF Channel B	1 bit	C	-	-	T	-	switch	Low
38	Push-button 2	ON/OFF Channel A	1 bit	C	-	-	T	-	switch	Low
46	Push-button 2	ON/OFF Channel B	1 bit	C	-	-	T	-	switch	Low
62	Push-button 3	Channel A value (0-255)	1 Byte	C	-	-	T	-	counter pulses (0..255)	Low
67	Push-button 3	Channel B value (0-255)	1 Byte	C	-	-	T	-	counter pulses (0..255)	Low
82	Push-button 4	Channel A value (%)	1 Byte	C	-	-	T	-	percentage (0..100%)	Low
87	Push-button 4	Channel B value (%)	1 Byte	C	-	-	T	-	percentage (0..100%)	Low
104	Push-button 5	Channel A value (Temperature)	2 Byte	C	-	-	T	-	temperature (°C)	Low
108	Push-button 5	Channel B value (Temperature)	2 Byte	C	-	-	T	-	temperature (°C)	Low
124	Push-button 6	Channel A value (Luminosity)	2 Byte	C	-	-	T	-	lux (Lux)	Low
128	Push-button 6	Channel B value (Luminosity)	2 Byte	C	-	-	T	-	lux (Lux)	Low

Figure 74: Independent push-button "2-channel mode" communication object

No.	Name	Object function	Length	Data type	Flags
18.58, 98.118	Channel A rocker x	Channel A ON/OFF Channel B ON/OFF	1 bits	DPT_Switching	C, T
26.66, 106.146	Channel B rocker x				
18.38, 58.78, 98.118, 138.158	Channel A button x				
26.46, 66.86, 106.126 146.166	Channel B button x				
22.62 102.142	Channel A rocker x	Channel A value (0-255) Channel B value (0-255)	1 byte	DPT_Counting pulse (0-255)	C, T
27.67, 107.147	Channel B rocker x				
22.42, 62.82, 102.122 142.162	Channel A button x				
27.47, 67.87, 107.127 147.167	Channel B button x				

No.	Name	Object function	Length	Data type	Flags
22.42, 62.82, 102.122 142.162	Channel A rocker x	Channel A value (%) Channel B value (%)	1 byte	DPT_Percentage	C, T
27.47, 67.87, 107.127 147.167	Channel B rocker x				
22.42, 62.82, 102.122 142.162	Channel A button x				
27.47, 67.87, 107.127 147.167	Channel B button x				
24.64, 104.144	Channel A rocker x	Channel A value (temperature) Channel B value (temperature)	2 byte	DPT_Temperature (°C)	C, T
28.68, 108.148	Channel B rocker x				
24.44, 64.84, 104.124 144.164	Channel A button x				
28.48, 68.88, 108.128 148.168	Channel B button x				
24.64, 104.144	Channel A rocker x	Channel A value (brightness) Channel B value (brightness)	2 byte	DPT_Lux (Lux)	C, T
28.68, 108.148	Channel B rocker x				
24.44, 64.84, 104.124 144.164	Channel A button x				
28.48, 68.88, 108.128 148.168	Channel B button x				
24.64, 104.144	Channel A rocker x	Channel A value (0-65535) Channel B value (0-65535)	2 byte	DPT_Pulse	C, T
28.68, 108.148	Channel B rocker x				
24.44, 64.84, 104.124 144.164	Channel A button x				
28.48, 68.88, 108.128 148.168	Channel B button x				

These objects are activated when the function "2-channel mode" is selected for each independent button/rocker.

The objects (18, 38, 58, 78, 98, 118, 138, 158 and 26, 46, 66, 86, 106, 126, 126, 166) transmit a 1-bit command to the bus and switch on the lighting, for example, via channel A and/or channel B when the button is pressed.

The objects (22, 42, 62, 82, 102, 122, 142, 162 and 27, 47, 67, 87, 107, 127, 147, 167) transmit a 1-byte command to the bus when the button is pressed.

The objects (24, 44, 64, 84, 104, 124, 144, 164 and 28, 48, 68, 88, 108, 128, 148, 168) transmit a 2-byte command to the bus when the button is pressed.

For further information see „4.12 „2-channel mode“ function“

7.3.12 Step switch

22	Rocker 1-2	Value (0-255)	1 Byte	C	-	-	T	-	counter pulses (0..255)	Low
62	Rocker 3-4	Value in %	1 Byte	C	-	-	T	-	percentage (0..100%)	Low
102	Rocker 5-6	Scene	1 Byte	C	-	-	T	-	scene control	Low

Figure 75: Rocker "Stepping switch" communication object

22	Push-button 1	Value (0-255)	1 Byte	C	-	-	T	-	counter pulses (0..255)	Low
42	Push-button 2	Value (0-255)	1 Byte	C	-	-	T	-	counter pulses (0..255)	Low
62	Push-button 3	Value in %	1 Byte	C	-	-	T	-	percentage (0..100%)	Low
82	Push-button 4	Value in %	1 Byte	C	-	-	T	-	percentage (0..100%)	Low
102	Push-button 5	Value in %	1 Byte	C	-	-	T	-	percentage (0..100%)	Low
122	Push-button 6	Value in %	1 Byte	C	-	-	T	-	percentage (0..100%)	Low

Figure 76: Button "Stepping switch" communication object

No.	Name	Object function	Length	Data type	Flags
22.62 102.142	Rocker x	Value (0-255) Value in % Scene	1 byte	DPT_Couting pulse (0-255) DPT_Percentage (0-100 %) DPT_Scene control	C, T
22.42, 62.82, 102.122 142.162	Button x				
These objects are activated when the "Stepping switch" function is selected in the parameters for each independent button/rocker. The objects (22, 42, 62, 82, 102, 122, 142, 162) transmit a 1-byte command to the bus when the button is pressed and increase/decrease the dimming of the lighting by one step with each key-press. For further information see „4.13 „Step switch“ function““					

7.3.13 Deactivate automatic

13	Rocker 1-2	Automatic control deactivation status	1 bit	C	-	W	T	U	enable	Low
18	Rocker 1-2	Automatic control deactivation	1 bit	C	-	-	T	-	enable	Low
53	Rocker 3-4	Automatic control deactivation status	1 bit	C	-	W	T	U	enable	Low
58	Rocker 3-4	Automatic control deactivation	1 bit	C	-	-	T	-	enable	Low
93	Rocker 5-6	Automatic control deactivation status	1 bit	C	-	W	T	U	enable	Low
98	Rocker 5-6	Automatic control deactivation	1 bit	C	-	-	T	-	enable	Low

Figure 77: Rocker "Automatic mode" communication object

13	Push-button 1	Automatic control deactivation status	1 bit	C	-	W	T	U	enable	Low
18	Push-button 1	Automatic control deactivation	1 bit	C	-	-	T	-	enable	Low
33	Push-button 2	Automatic control deactivation status	1 bit	C	-	W	T	U	enable	Low
38	Push-button 2	Automatic control deactivation	1 bit	C	-	-	T	-	enable	Low
53	Push-button 3	Automatic control deactivation status	1 bit	C	-	W	T	U	enable	Low
58	Push-button 3	Automatic control deactivation	1 bit	C	-	-	T	-	enable	Low
73	Push-button 4	Automatic control deactivation status	1 bit	C	-	W	T	U	enable	Low
78	Push-button 4	Automatic control deactivation	1 bit	C	-	-	T	-	enable	Low
93	Push-button 5	Automatic control deactivation status	1 bit	C	-	W	T	U	enable	Low
98	Push-button 5	Automatic control deactivation	1 bit	C	-	-	T	-	enable	Low
113	Push-button 6	Automatic control deactivation status	1 bit	C	-	W	T	U	enable	Low
118	Push-button 6	Automatic control deactivation	1 bit	C	-	-	T	-	enable	Low

Figure 78: Button "Automatic mode" communication object

<table>
<tr><th>No.</th><th>Name</th><th>Object function</th><th>Length</th><th>Data type</th><th>Flags</th></tr>
<tr><td>13.53,
93.133</td><td>Rocker x</td><td rowspan="2">Automatic control deactivation status</td><td rowspan="2">1 bits</td><td rowspan="2">DPT_Enable</td><td rowspan="2">C, W,
T, U</td></tr>
<tr><td>13.33
53.73,
93.113,
133.153</td><td>Button x</td></tr>
<tr><td>18.58,
98.138</td><td>Rocker x</td><td rowspan="2">Deactivate automatic</td><td rowspan="2">1 bits</td><td rowspan="2">DPT_Enable</td><td rowspan="2">C, T</td></tr>
<tr><td>18.38,
58.78,
98.118,
138.158</td><td>Button x</td></tr>
<tr><td colspan="6">These objects are activated when the "Automatic control deactivation" function is selected in the parameters for each independent button/rocker.
The objects (13, 33, 53, 73, 93, 113, 133, 153) transmit a 1-bit command to the bus and show the "Automatic mode" status, for example, on a display when the button is pressed.
The objects (18, 38, 58, 78, 98, 118, 138, 158) transmit a 1-bit command when the button is pressed which allows it to start/stop a set automatic mode.
For further information see „4.14 „Deactivate automatic functions“ function“</td></tr>
</table>

7.4 "Internal temperature sensor" communication objects

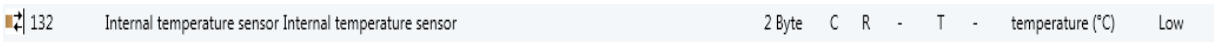


Figure 79: "Internal temperature sensor" communication object

No.	Name	Object function	Length	Data type	Flags
172	Internal temperature sensor	Internal temperature sensor	2 byte	DPT_Temperature (°C)	C, R, T
This object is activated when the "Sensor" parameter is activated. This object makes it possible to forward the internally measured temperature value to a thermostat, for example. For further information see „5. „Temperature sensor“ function parameters“					

7.5 "External temperature sensor" communication objects

Figure 80: "External temperature sensor" communication object

No.	Name	Object function	Length	Data type	Flags
173	Internal temperature sensor	Internal temperature sensor	2 byte	DPT_Temperature (°C)	C, R, T
This object is activated when the "Sensor" parameter is activated. This object makes it possible to forward the externally measured temperature value to a thermostat, for example. For further information see „5. „Temperature sensor“ function parameters“					

8. Appendix

8.1 ETS software characteristics

Product	1gang	2gang	3gang	4gang
Max. number of group addresses	254	254	254	254
Max. number of assignments	255	255	255	255
Objects	173	173	173	173

Table 40: ETS software characteristics

8.2 Technical data

KNX medium	TP 1
Configuration mode	system link
Rated voltage KNX	21 ... 32 V⎓ SELV
Current consumption KNX	typ. 10 mA
KNX connection mode	AST user interface
Degree of protection	IP 20
Protection class	III
Operating temperature	-5 … +45 °C
Storage/transport temperature	-20 … +70 °C
Standards	EN 60669-2-1; EN 60669-1 EN 50428

8.3 Accessories

Bus application unit, flush-mounted	8004 00 01
Labelling field insert Q.x	9498 xx xx

8.4 Warranty

We reserve the right to realise technical and formal changes to the product in the interest of technical progress.

Our products are under guarantee within the scope of the statutory provisions.

If you have a warranty claim, please contact the point of sale.

Table of figures

List of tables