



## Push Button, “Intensity” series

INT-xxxxx1 (... 4).02S

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## 2 Overview

### 2.1 Overview devices

This manual refers to the following devices (article number in **bold**):

- **INT-xxxx1.02S**      KNX Intensity, different surfaces, 1 gang, Secure
- **INT-xxxx2.02S**      KNX Intensity, different surfaces, 2 gang, Secure
- **INT-xxxx4.02S**      KNX Intensity, different surfaces, 4 gang, Secure
  
- **INT-Exxxx4.02S**      KNX Intensity Extended, different surfaces, 4 gang, Secure
  
- **INT-Lxxxx1.02S**      KNX Intensity Landscape, different surfaces, 1 gang, Secure
- **INT-Lxxxx2.02S**      KNX Intensity Landscape, different surfaces, 2 gang, Secure

## 2.2 Functions

### Extensive button functions

A function can be triggered by pressing or releasing a button. This provides a wide range of operating options. The button functions include "switch", "send values", "scene", "switch/send values short/long (with 2 objects)", "blinds/shutter" and "dimming".

### Innovative group control

With the innovative group control, standard functions can be enhanced by pressing the button extra long. For example, the blind function in a living room. A single blind is operated with the normal short/long key press. With the additional extra long key press, for example, all blinds in the living room (group) are operated centrally. The innovative group control can also be used for lighting. A short button press switches a single light on or off, a long button press switches on or off every light in the room, and an extra long button press switches on or off every light on the entire floor.

### Multitouch-function

With the multitouch-function, up to 4 different functions can be programmed on a single button. A separate datapoint type is available for each function, which means that different functions can also be triggered.

### RGBW State LEDs

One RGBW status LED is available for each button. The status LED reacts to key presses or external/internal objects. The colours red, green, yellow, blue, pink, cyan and white can be assigned. A separate LED is available for the colour white to provide a clear, high-quality white. Various colours and brightness levels can be assigned using a day/night object. A priority object offers the option of visualising important states via LED.

### Integrated temperature sensor

The integrated temperature sensor can be used for room temperature control. This eliminates the need for an additional temperature sensor in the room. The sending conditions for the temperature value are adjustable. Threshold values are available for limit value monitoring.

### Slap function (Only for INT-xxxxx4.02S)

The slap function, which is triggered by touching the entire surface of the button, allows intuitive operation. This function can be used, for example, to switch on the light when entering the room without the user having to search for the exact position of the single buttons.

### Logic functions

Four logic blocks enable a wide range of function calls to be implemented. The logic function can process both internal and external objects.

### Updateable via MDT Firmware Update App

If necessary, the device can be updated using the MDT Firmware Update App  
The download is available free of charge at [www.knx.org](http://www.knx.org).

### Long Frame Support

The device supports "long frames" (longer telegrams). These contain more payload per telegram, which significantly reduces the programming time.

### KNX Data Secure

The device supports secure commissioning within KNX installations and complies with the requirements of the EU Cyber Resilience Regulation (CRA-ready).

## 2.3 Wiring diagram

The following picture shows the exemplary wiring diagram:

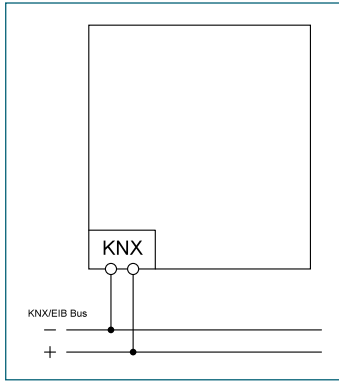


Figure 1: Wiring diagram

## 2.4 Structure and Handling

The following pictures show the structure of the push buttons:

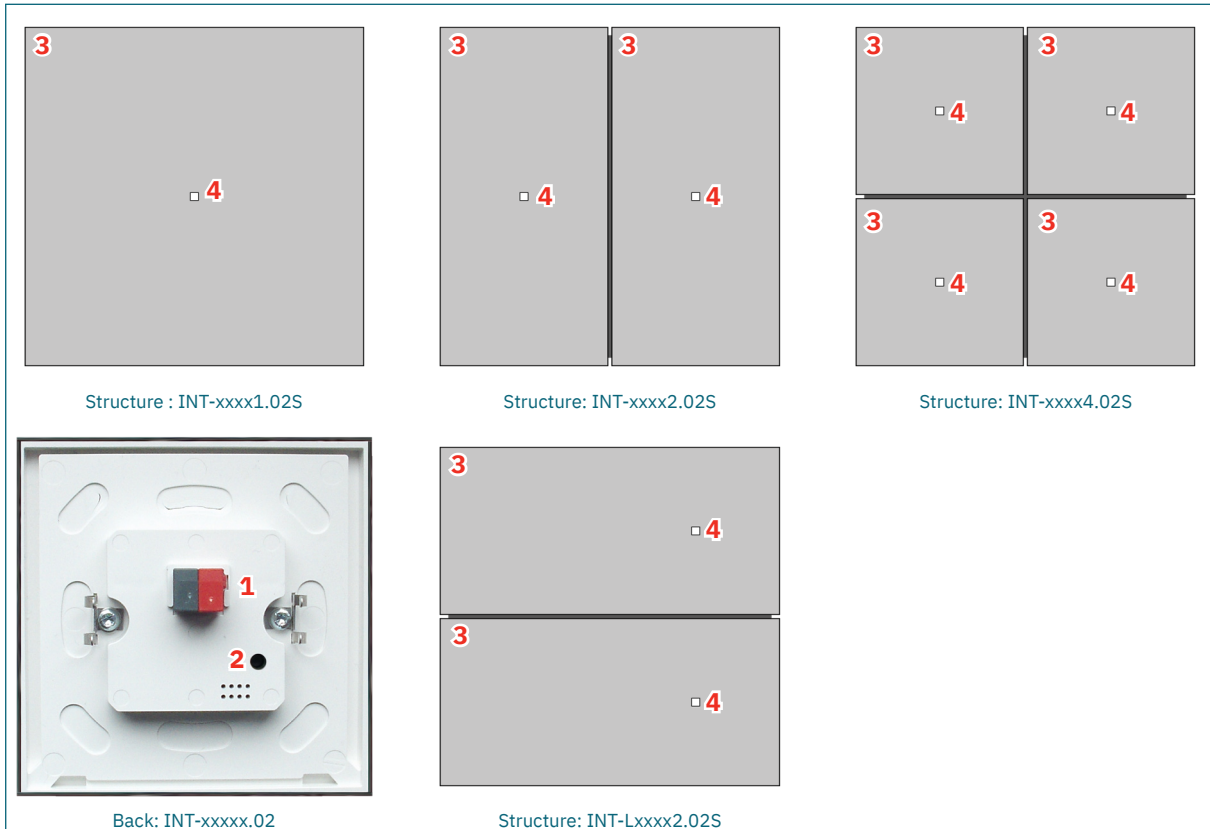


Figure 2: Structure and Handling

- |                       |                        |
|-----------------------|------------------------|
| 1 – KNX Bus connector | 2 – Programming button |
| 3 – Sensor surfaces   | 4 – RGBW status LEDs   |

## 2.5 Commissioning

1. Wire the device according to the wiring diagram.
2. Connect the interface to the bus.
3. Switch on bus voltage.
4. Press the programming button on the device – The status LEDs flash red.
5. Set and programme the individual address in the ETS – Status LEDs turn off.
6. Configure and programme the settings in the application programme.

## 2.6 Safety

### 2.6.1 KNX Secure

The use of KNX Secure functionality requires ETS version 5.7 or higher.

KNX Secure has two different mechanisms: IP Secure and Data Secure.

#### KNX Data Secure

This safety option ensures that messages/telegrams sent by KNX devices (regardless of the KNX medium) are encrypted and/or authenticated as long as both participants are KNX Data Secure-capable. If one of the participants does not support KNX Data Secure, communication continues unencrypted.

#### Notes:

The device supports up to 255 group addresses with activated security.

The maximum number of communication partners is 320.

#### Device Certificate

The device certificate is used to ensure the secure commissioning of a KNX Secure device. The key contained in the certificate must be scanned or entered once by the integrator/installer in the ETS. The device certificate is no longer required for further transmissions unless the device is reset via a master reset (see [2.7 Reset to factory settings \(Master reset\)](#)).

The certificates of all devices in a project should be removed from the device label after initial commissioning and stored with the project.

#### Secure Mode

If a device is operated with activated safety, it works in 'secure mode' and transmits the data in encrypted form. This is indicated by the blue shield symbol.

#### Plain Mode

If a device is operated without activated security, this is referred to as 'plain mode'. The data are transmitted unencrypted.

### 2.6.2 Project password

Activated KNX Secure requires an ETS project password. Without a project password, secure commissioning is not possible and the devices will be loaded in unsecured mode.

### 2.6.3 Commissioning with activated KNX Secure

When importing the application program into the KNX project, a message appears indicating that a project password is required. If you cancel at this point, the device will be loaded without KNX Secure functions. The device certificate is then entered (see [2.6.1 KNX Secure](#)). If a web cam is connected, this can be done by scanning the QR code; alternatively, the certificate can be entered using the keyboard.

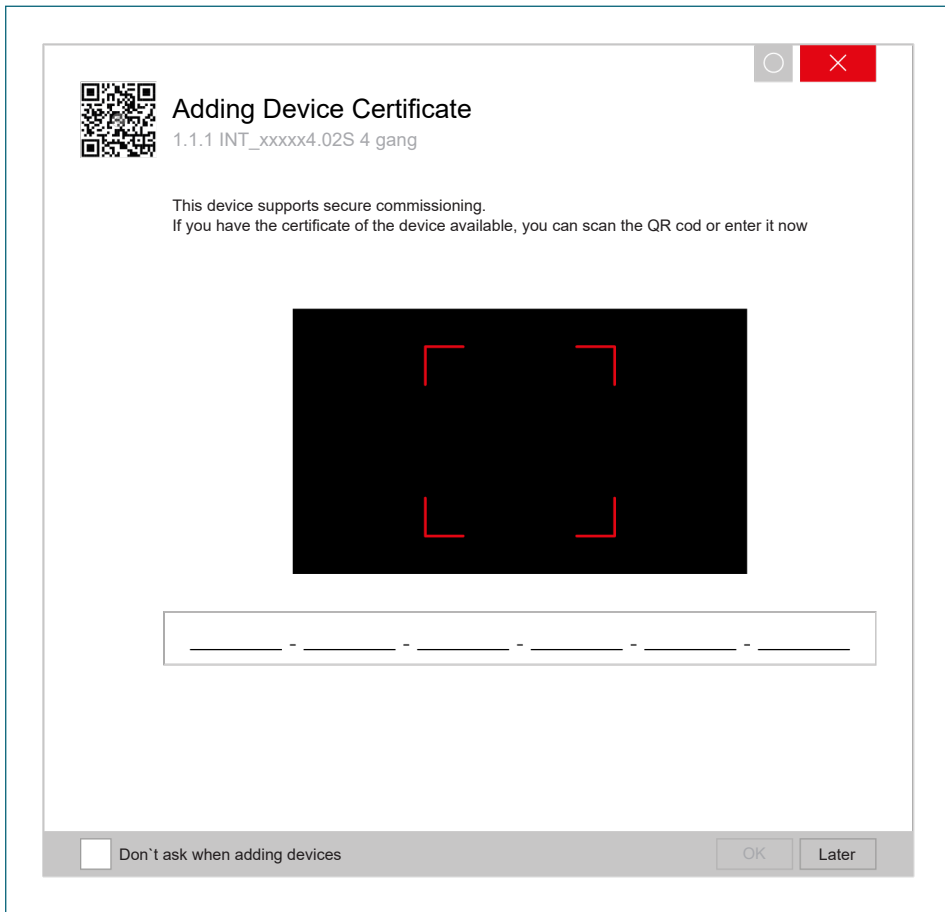


Figure 3: Adding device certificate

## 2.7 Reset to factory settings (Master reset)

If the device has already been in use or if the initial start-up has failed, reset it to the factory settings as follows:

1. Press and hold the programming button for at least 10 seconds.
2. The programming LED starts flashing.
3. Now release the button briefly and press it again for at least 5 seconds until the programming LED turns off.
4. The device resets itself and restarts.

## 3 Communication Objects

### 3.1 Standard settings of the communication objects

Standard Settings – General settings									
No.	Name	Object Function	Length	C	R	W	T	U	
1	In operation	Output		■	■		■		
2	Day / Night	Day = 1 / Night = 0	1 Bit	■		■	■	■	
2	Day / Night	Night = 1 / Day = 0	1 Bit	■		■	■	■	
3	Button operation	Output	1 Bit	■			■	■	

Table 1: Communication objects – Standard settings: General settings

Standard Settings – Buttons									
No.	Name	Object Function	Length	C	R	W	T	U	
10	PB1:	Switch	1 Bit	■			■		
10	PB1:	Toggle	1 Bit	■			■		
10	PB1:	Send status	1 Bit	■			■		
10	PB1:	Forcible control	2 Bit	■			■		
10	PB1:	Percent value	1 Byte	■			■		
10	PB1:	Decimal value	1 Byte	■			■		
10	PB1:	Scene	1 Byte	■			■		
10	PB1:	Colour temperature	2 Byte	■			■		
10	PB1:	Temperature value	2 Byte	■			■		
10	PB1:	Brightness value	2 Byte	■			■		
10	PB1:	RGB value	3 Byte	■			■		
10	PB1:	HSV value	3 Byte	■			■		
10	PB1:	Blinds/Shutter Up/Down	1 Bit	■			■		
10	PB1:	Dimming On/Off	1 Bit	■			■		
10	PB1 short:	Switch	1 Bit	■			■		
10	PB1 short:	Toggle	1 Bit	■			■		

Standard Settings – Buttons									
No.	Name	Object Function	Length	C	R	W	T	U	
10	PB1 short:	Forcible control	2 Bit	■			■		
10	PB1 short:	Percent value	1 Byte	■			■		
10	PB1 short:	Decimal value	1 Byte	■			■		
10	PB1 short:	Scene	1 Byte	■			■		
10	PB1 short:	Colour temperature	2 Byte	■			■		
10	PB1 short:	Temperature value	2 Byte	■			■		
10	PB1 short:	Brightness value	2 Byte	■			■		
10	PB1 short:	RGB value	3 Byte	■			■		
10	PB1 short:	HSV value	3 Byte	■			■		
10	PB1, 1x tip:	Switch	1 Bit	■			■		
10	PB1, 1x tip:	Forcible control	2 Bit	■			■		
10	PB1, 1x tip:	Percent value	1 Byte	■			■		
10	PB1, 1x tip:	Decimal value	1 Byte	■			■		
10	PB1, 1x tip:	Scene	1 Byte	■			■		
10	PB1, 1x tip:	Colour temperature	2 Byte	■			■		
10	PB1, 1x tip:	Temperature value	2 Byte	■			■		
10	PB1, 1x tip:	Brightness value	2 Byte	■			■		
10	PB1, 1x tip:	RGB value	3 Byte	■			■		
10	PB1, 1x tip:	HSV value	3 Byte	■			■		
10	PB1, tip:	Switch	1 Bit	■			■		
10	PB1, tip:	Forcible control	2 Bit	■			■		
10	PB1, tip:	Percent value	1 Byte	■			■		
10	PB1, tip:	Decimal value	1 Byte	■			■		
10	PB1, tip:	Scene	1 Byte	■			■		
10	PB1, tip:	Colour temperature	2 Byte	■			■		
10	PB1, tip:	Temperature value	2 Byte	■			■		
10	PB1, tip:	Brightness value	2 Byte	■			■		
10	PB1, tip:	RGB value	3 Byte	■			■		
10	PB1, tip:	HSV value	3 Byte	■			■		

Standard Settings – Buttons									
No.	Name	Object Function	Length	C	R	W	T	U	
11	PB1:	Status for toggle	1 Bit	■		■	■	■	
11	PB1:	Dimming relative	4 Bit	■			■		
11	PB1, 2x tip:	Switch	1 Bit	■			■		
11	PB1, 2x tip:	Forcible control	2 Bit	■			■		
11	PB1, 2x tip:	Percent value	1 Byte	■			■		
11	PB1, 2x tip:	Decimal value	1 Byte	■			■		
11	PB1, 2x tip:	Scene	1 Byte	■			■		
11	PB1, 2x tip:	Colour temperature	1 Byte	■			■		
11	PB1, 2x tip:	Temperature value	2 Byte	■			■		
11	PB1, 2x tip:	Brightness value	2 Byte	■			■		
11	PB1, 2x tip:	RGB value	3 Byte	■			■		
11	PB1, 2x tip:	HSV value	3 Byte	■			■		
11	PB1 short:	Status for toggle	1 Bit	■		■	■	■	
11	PB1:	Stop / Slats Open/Close	1 Bit	■			■		
11	PB1:	Status: Percent value	1 Byte	■		■	■	■	
11	PB1:	Status: Decimal value	1 Byte	■		■	■	■	
11	PB1:	Status: Colour temperature	2 Byte	■		■	■	■	
11	PB1:	Status: Brightness value	2 Byte	■		■	■	■	
11	PB1:	Status: Temperature value	2 Byte	■		■	■	■	
12	PB1 Group long:	Switch	1 Bit	■			■		
12	PB1: Group long:	Toggle	1 Bit	■			■		
12	PB1 Group long:	Forcible control	2 Bit	■			■		
12	PB1 Group long:	Percent value	1 Byte	■			■		
12	PB1 Group long:	Decimal value	1 Byte	■			■		
12	PB1 Group long:	Scene	1 Byte	■			■		
12	PB1 Group long:	Colour temperature	2 Byte	■			■		
12	PB1 Group long:	Temperature value	2 Byte	■			■		
12	PB1 Group long:	Brightness value	2 Byte	■			■		
12	PB1 Group long:	RGB value	3 Byte	■			■		

Standard Settings – Buttons									
No.	Name	Object Function	Length	C	R	W	T	U	
12	PB1 Group long:	HSV value	3 Byte	■			■		
12	PB1, 3x tip:	Switch	1 Bit	■			■		
12	PB1, 3x tip:	Forcible control	2 Bit	■			■		
12	PB1, 3x tip:	Percent value	1 Byte	■			■		
12	PB1, 3x tip:	Decimal value	1 Byte	■			■		
12	PB1, 3x tip:	Scene	1 Byte	■			■		
12	PB1, 3x tip:	Colour temperature	2 Byte	■			■		
12	PB1, 3x tip:	Temperature value	2 Byte	■			■		
12	PB1, 3x tip:	Brightness value	2 Byte	■			■		
12	PB1, 3x tip:	RGB value	3 Byte	■			■		
12	PB1, 3x tip:	HSV value	3 Byte	■			■		
12	PB1 long:	Switch	1 Bit	■			■		
12	PB1 long:	Toggle	1 Bit	■			■		
12	PB1 long:	Forcible control	2 Bit	■			■		
12	PB1 long:	Percent value	1 Byte	■			■		
12	PB1 long:	Decimal value	1 Byte	■			■		
12	PB1 long:	Scene	1 Byte	■			■		
12	PB1 long:	Colour temperature	2 Byte	■			■		
12	PB1 long:	Temperature value	2 Byte	■			■		
12	PB1 long:	Brightness Value	2 Byte	■			■		
12	PB1 long:	RGB value	3 Byte	■			■		
12	PB1 long:	HSV value	3 Byte	■			■		
12	PB1:	Scene	1 Byte	■			■		
12	PB1:	Status for change of direction	1 Bit	■		■	■	■	
12	PB1:	Status for toggle	1 Bit	■		■	■	■	
12	PB1 (2. object):	Switch	1 Bit	■			■		
12	PB1 (2. object):	Forcible control	2 Bit	■			■		
12	PB1 (2. object):	Percent value	1 Byte	■			■		
12	PB1 (2. object):	Decimal value	1 Byte	■			■		

Standard Settings – Buttons									
No.	Name	Object Function	Length	C	R	W	T	U	
12	PB1 (2. object):	Scene	1 Byte	■			■		
12	PB1 (2. object):	Colour temperature	2 Byte	■			■		
12	PB1 (2. object):	Temperature value	2 Byte	■			■		
12	PB1 (2. object):	Brightness value	2 Byte	■			■		
12	PB1 (2. object):	RGB value	3 Byte	■			■		
12	PB1 (2. object):	HSV value	3 Byte	■			■		
13	PB1 long:	Status for Toggle	1 Bit	■		■	■	■	
13	PB1 Group extra long:	Blinds/Shutter Up/Down	1 Bit	■			■		
13	PB1, long:	Switch	1 Bit	■			■		
13	PB1, long:	Forcible control	2 Bit	■			■		
13	PB1, long:	Percent value	1 Byte	■			■		
13	PB1, long:	Decimal value	1 Byte	■			■		
13	PB1, long:	Scene	1 Byte	■			■		
13	PB1, long:	Colour temperature	2 Byte	■			■		
13	PB1, long:	Temperature value	2 Byte	■			■		
13	PB1, long:	Brightness value	2 Byte	■			■		
13	PB1, long:	RGB value	3 Byte	■			■		
13	PB1, long:	HSV value	3 Byte	■			■		
14	PB1 Group extra long:	Switch	1 Bit	■			■		
14	PB1 Group extra long:	Toggle	1 Bit	■			■		
14	PB1 Group extra long:	Forcible control	2 Bit	■			■		
14	PB1 Group extra long:	Percent value	1 Byte	■			■		
14	PB1 Group extra long:	Decimal value	1 Byte	■			■		
14	PB1 Group extra long:	Scene	1 Byte	■			■		
14	PB1 Group extra long:	Colour temperature	2 Byte	■			■		
14	PB1 Group extra long:	Temperature value	2 Byte	■			■		
14	PB1 Group extra long:	Brightness value	2 Byte	■			■		
14	PB1 Group extra long:	RGB value	3 Byte	■			■		
14	PB1 Group extra long:	HSV value	3 Byte	■			■		

Standard Settings – Buttons									
No.	Name	Object Function	Length	C	R	W	T	U	
14	PB1 Group extra long:	Stop/Slats Open/Close	1 Bit	■			■		
19	PB1:	Lock object	1 Bit	■		■	■	■	
<b>+10 Next button</b>									

Table 2: Communication objects – Standard settings: Buttons

Standard Settings – Slap/Cleaning function									
No.	Name	Object Function	Length	C	R	W	T	U	
90	Slap-button short	Switch OFF	1 Bit	■			■		
90	Slap-button short	Switch ON	1 Bit	■			■		
90	Slap-button short	Toggle	1 Bit	■			■		
90	Slap-button short	Forcible control	2 Bit	■			■		
90	Slap-button short	Percent value	1 Byte	■			■		
90	Slap-button short	Decimal value	1 Byte	■			■		
90	Slap-button short	Scene	1 Byte	■			■		
90	Slap-button short	Colour temperature	2 Byte	■			■		
90	Slap-button short	Temperature value	2 Byte	■			■		
90	Slap-button short	Brightness value	2 Byte	■			■		
90	Slap-button short	RGB value	3 Byte	■			■		
90	Slap-button short	HSV value	3 Byte	■			■		
91	Slap-button short	Status for toggle	1 Bit	■		■	■	■	
92	Slap-button long	Switch OFF	1 Bit	■			■		
92	Slap-button long	Switch ON	1 Bit	■			■		
92	Slap-button long	Toggle	1 Bit	■			■		
92	Slap-button long	Forcible control	2 Bit	■			■		
92	Slap-button long	Percent value	1 Byte	■			■		
92	Slap-button long	Decimal value	1 Byte	■			■		
92	Slap-button long	Scene	1 Byte	■			■		
92	Slap-button long	Colour temperature	2 Byte	■			■		
92	Slap-button long	Temperature value	2 Byte	■			■		

Standard Settings – Slap/Cleaning function									
No.	Name	Object Function	Length	C	R	W	T	U	
92	Slap-button long	Brightness value	2 Byte	■			■		
92	Slap-button long	RGB value	3 Byte	■			■		
92	Slap-button long	HSV value	3 Byte	■			■		
93	Slap-button long	Status for toggle	1 Bit	■		■	■	■	
99	Slap-button	Lock object	1 Bit	■		■	■	■	

Table 3: Communication objects – Standard settings: Slap / Cleaning function

Standard Settings – Status LED									
No.	Name	Object Function	Length	C	R	W	T	U	
100	LED 1	Switch/Percent value/Decimal value	1 Bit 1 Byte	■		■	■	■	
+ 1	<b>Next LED</b>								
108	LED 1 Priority	Switch	1 Bit	■		■	■	■	
+ 1	<b>Next LED priority</b>								
116	LED	Lock object	1 Bit	■		■	■	■	
117	LED - Synchronise	Flashing status as master	1 Bit	■			■		
117	LED - Synchronise	Flashing status as slave	1 Bit	■		■			
118	Brightness	Input for dynamic brightness	1 Byte 2 Byte	■		■	■	■	

Table 4: Communication objects – Standard settings: Status LED

Standard Settings – Logic									
No.	Name	Object Function	Length	C	R	W	T	U	
119	Logic 1	Input A	1 Bit	■		■	■	■	
120	Logic 1	Input B	1 Bit	■		■	■	■	
121	Logic 1	Output: Switch	1 Bit	■	■		■		
121	Logic 1	Output: Value	2 Bit 1 Byte	■	■		■		
121	Logic 1	Output: Scene	1 Byte	■	■		■		
<b>+ 3</b>	<b>Next Logic</b>								

Table 5: Communication objects – Standard settings: Logic

Standard Settings – Temperature									
No.	Name	Object Function	Length	C	R	W	T	U	
143	Temperature	Send measured value	2 Byte	■	■		■		
144	Temperature	External sensor - Input	2 Byte	■		■			
145	Temperature	Maximum value exceeded	1 Bit	■	■		■		
146	Temperature	Minimum value fallen below	1 Bit	■	■		■		

Table 6: Communication objects – Standard settings: Temperature

The table above shows the preset default settings. The priority of the individual communications objects and the flags can be adjusted by the user as required. The flags assign the communication objects their respective tasks in programming, where C stands for communication, R for read, W for write, T for transmit and U for update.

## 4 ETS Parameter

### 4.1 General Settings

**Important:** To improve the readability of this manual, terms such as ‘sensor surfaces’ and ‘sensor actuation’ are not used. Instead, terms such as ‘buttons’ and ‘keypress’ are used.

The following table shows the available settings:

ETS Text	Dynamic range [Default value]	Comment
Startup time	2 ... 240 s [2 s]	Sets the time between restart and functional start-up of the device.
Send “In operation” cyclically	<b>not active</b> 1 min – 4 h	Activation of a cyclical “In operation” telegram.
Value for Day/Night	<ul style="list-style-type: none"> <li>■ Day = 1 / Night = 0</li> <li>■ Night = 1 / Day = 0</li> </ul>	Setting the polarity for the Day/Night switchover.
<b>Behaviour after bus power return</b>		
Status for toggle	<ul style="list-style-type: none"> <li>■ do not request</li> <li>■ request</li> </ul>	Setting to request the “Status for Toggle” object after bus power return.
Day/Night object	<ul style="list-style-type: none"> <li>■ do not request</li> <li>■ request</li> </ul>	Setting whether the “Day/Night” object is to be requested.

Table 7: General settings

#### Startup time

This time defines when the device boots up after a restart (reset, reprogramming, bus power return). This is particularly relevant for a bus reset. If there are a large number of devices on a line, a simultaneous start of all devices would be expected. This would lead to a load on the bus. The variability of the start time allows the devices to be started flexibly.

#### “In operation”

This parameter is used to show on the bus that the device is “alive”. If activated, an ON telegram is sent cyclically.

#### Button operation

The communication object “Button operation – Output” is switched every time a button is pressed, regardless of which button is pressed. This can be used, for example to switch-on an orientation light.

**Note:** A time-out of 30 seconds is restarted after each button press. No new telegram is sent via this communication object during the active time-out.

The following table shows the associated communication objects:

No.	Name/Object function	Length	Usage
1	In operation – Output	1 Bit	Sending a cyclic “In operation” telegram.
2	Day/Night – Day = 1 / Night = 0	1 Bit	Receiving the status for Day/Night.
2	Day/Night – Night = 1 / Day = 0	1 Bit	Receiving the status for Day/Night.
3	Button operation – Output	1 Bit	Sends a “1” when a button is pressed.

Table 8: Communication objects – General settings

## 4.2 Button functions – General

In the “Button functions” menu, each buttons can be activated or deactivated.

The following table shows the available settings:

ETS Text	Dynamic range [Default value]	Comment
Slap / Cleaning function	<ul style="list-style-type: none"> <li>■ not active</li> <li>■ active</li> </ul>	Activates the slap/cleaning function. <b>Only available for INT-xxxxx4.02S</b>
Button 1	<ul style="list-style-type: none"> <li>■ not active</li> <li>■ active</li> </ul>	Activation of the button. <b>For INT-xxxxx1.02S</b>
Button 1 Button 2	<ul style="list-style-type: none"> <li>■ not active</li> <li>■ active</li> </ul>	Activation of the button. <b>For INT-xxxxx2.02S</b>
Button 1(left top) Button 2 (right top) Button 3 (left bottom) Button 4 (right bottom)	<ul style="list-style-type: none"> <li>■ not active</li> <li>■ active</li> </ul>	Activation of the button. <b>For INT-xxxxx4.02S</b>
Reaction time on keypress	<ul style="list-style-type: none"> <li>■ fast</li> <li>■ medium</li> <li>■ slow</li> </ul>	Setting the debouncing of the buttons.
Time for long keypress (Basic setting)	0,1 s – 30 s <b>[0,4 s]</b>	Setting for when a keypress is recognised as a ‘long keypress’.

Table 9: Settings – Button functions

**Slap/Cleaning function** (only for INT-xxxxx4.02S)

When the Slap/Cleaning function is activated, an additional submenu is displayed in which this function can be configured. The polarity, i.e. whether the “Slap function” or the “Cleaning function” should be activated by a short or long button press, can also be set here.

The “Slap function”, which is triggered by touching the button over its entire surface, allows intuitive operation. This function can be used, for example, to switch on the light when entering the room without the user having to search for the exact position of the single buttons. Here, a short reaction time on keypress is recommended to achieve a quick response.

The “Cleaning function” allows the surface to be cleaned without triggering the buttons. When the surface is touched over the entire area for the appropriate time (e.g. long button, 0.4 seconds), the status LEDs start to flash. The surface can be cleaned during this time. After a fixed time of 10 seconds, the LEDs turn off and the button is in normal operation.

**Note:** “Entire surface of the buttons” means that at least three Sensor surfaces must be touched simultaneously.

**Reaction time on keypress**

The reaction time is used to debounce the buttons. It can be selected as slow, medium or fast and defines how long a button must be pressed to generate a function call.

**Note:** A fast reaction time is recommended for the Multitouch function.

**Time for long keypress (Basic setting)**

The parameter ‘Time for long keypress’ can be used to assign a fixed time value to the button, after which it recognises a keypress as long. This parameter is important for objects that have functions for the short and long keypresses.

## 4.3 Button functions

### 4.3.1 Identical parameter

#### 4.3.1.1 Lock object

If the lock object is active, a communication object for the button is displayed. Up to four lock objects can be activated on a device with four button functions. If the lock object receives a “1”, the corresponding button function is “locked” and can no longer react to activation. The lock is released by transmitting a ‘0’ to the corresponding lock object.

The following table shows the associated communication object:

No.	Name/Object function	Length	Usage
19	PB1: – Lock object	1 Bit	Locks the corresponding button.

Table 10: Communication object – Lock object

#### 4.3.1.2 Button/Object description

A text field is available for each button for free labelling:

Button/Object description	Bathroom
---------------------------	----------

Figure 4: Identical parameter – Text field

A text with up to 30 characters can be stored for the field.

The text entered in ‘Button/object description’ appears in the menu behind the corresponding button menu and in the communication objects of the function:

Button/Object description	Communication objects						
PB1: Bathroom	<table border="1"> <tr> <td>☐ ↔ 10</td> <td>PB1: Bathroom</td> <td>Switch</td> </tr> <tr> <td>☐ ↔ 19</td> <td>PB1: Bathroom</td> <td>Lock object</td> </tr> </table>	☐ ↔ 10	PB1: Bathroom	Switch	☐ ↔ 19	PB1: Bathroom	Lock object
☐ ↔ 10	PB1: Bathroom	Switch					
☐ ↔ 19	PB1: Bathroom	Lock object					

Figure 5: Identical parameter – Text for Button/Object description



### 4.3.2.1 Subfunction: Switch

When this button is pressed, the fixed value (ON or OFF) is sent.

**Note:** For details on the Innovative group control, see [4.3.2 Switch \(General\)](#).

The following table shows the available communication objects:

No.	Name/Object function	Length	Usage
10	PB1: – Switch	1 Bit	Switch function.
12	PB1 group long: – Switch	1 Bit	Switch function for long keypress.
14	PB1 group extra long: – Switch	1 Bit	Switch function for extra long keypress.

Table 12: Communication objects – Switch – Subfunction: Switch

### 4.3.2.2 Subfunction: Toggle

With this function, the button sends the inverted value in relation to the last received status value. For this purpose, the status object “Status for toggle” has to be connected to the status of the actuator to be controlled. If a “1” signal was received as the last value, the button sends a “0” command to the “Toggle” object the next time it is pressed.

**Note:** For details on the innovative group control, see [4.3.2 Switch \(General\)](#).

The following table shows the available communication objects:

No.	Name/Object function	Length	Usage
10	PB1: – Toggle	1 Bit	Switch function.
11	PB1: – Status for Toggle	1 Bit	Receiving the switching status of the actuator.
12	PB1 group long: – Toggle	1 Bit	Switch function for long keypress.
14	PB1 group extra long: – Toggle	1 Bit	Switch function for extra long keypress.

Table 13: Communication objects – Switch – Subfunction: Toggle

### 4.3.2.3 Subfunction: Send status

With this function, fixed values can be sent for a pressed button (rising edge) and a released button (falling edge).

In addition, it is possible to set a delay for the released button. This means that the value for the pressed button is sent immediately, but the value for the released button after a delay.

For example, a light can be switched on when the button is pressed, but the light remains on for a few seconds after the button is released. This time is then left, for example, to leave a room without being in the dark.

The following table shows the available communication object:

No.	Name/Object function	Length	Usage
10	PB1: – Send status	1 Bit	Switch function.

Table 14: Communication objects – Switch – Subfunction: Send status

### 4.3.3 Send values

#### 4.3.3.1 Subfunction: Send values

With this function, different values of a datapoint type can be sent.

The following table shows the available settings:

ETS Text	Dynamic range [Default value]	Comment
Datapoint type	<ul style="list-style-type: none"> <li>■ 1 Bit DPT 1.001 Switch</li> <li>■ 2 Bit DPT 2.001 Forcible control</li> <li>■ <b>1 Byte DPT 5.001 Percent (0...100%)</b></li> <li>■ 1 Byte DPT 5.005 Decimal factor (0...255)</li> <li>■ 1 Byte DPT 17.001 Scene number</li> <li>■ 2 Byte DPT 7.600 Colour temperature (K)</li> <li>■ 2 Byte DPT 9.001 Temperature (°C)</li> <li>■ 2 Byte DPT 9.004 Brightness (Lux)</li> <li>■ 3 Byte DPT 232.600 RGB value</li> </ul>	Setting the type of datapoint to be sent.
Colour control	<ul style="list-style-type: none"> <li>■ <b>RGB</b></li> <li>■ HSV</li> </ul>	Selection of colour system. <b>Only for “RGB value“.</b>
Value Scene number RGB value HSV value	any value according to set datapoint type.	Setting the value to be sent when the button is pushed.
Special function	<ul style="list-style-type: none"> <li>■ <b>innovative group control</b></li> <li>■ additional object</li> </ul>	Selection of the special function.
<b>“Special function“ → “innovative group control“</b>		
Group long keypress	<ul style="list-style-type: none"> <li>■ <b>not active</b></li> <li>■ active</li> </ul>	Activation of the group for long keypress.
Group extra long keypress	<ul style="list-style-type: none"> <li>■ <b>not active</b></li> <li>■ active</li> </ul>	Activation of the group for extra long keypress.
Time for long keypress	<b>basic setting</b> 0,1 s – 30,0 s	Setting of an individual time from when a long keystroke is detected.
Time for extra long keypress	0,1 s – 30,0 s <b>[2,0 s]</b>	Setting of an individual time from when an extra long keypress is detected.

ETS Text	Dynamic range [Default value]	Comment
<b>“Special function“ → “additional object“</b>		
Datapoint type (2. object)	<ul style="list-style-type: none"> <li>■ 1 Bit DPT 1.001 Switch</li> <li>■ 2 Bit DPT 2.001 Forcible control</li> <li>■ <b>1 Byte DPT 5.001 Percent (0...100%)</b></li> <li>■ 1 Byte DPT 5.005 Decimal factor (0...255)</li> <li>■ 1 Byte DPT 17.001 Scene number</li> <li>■ 2 Byte DPT 7.600 Colour temperature (K)</li> <li>■ 2 Byte DPT 9.001 Temperature (°C)</li> <li>■ 2 Byte DPT 9.004 Brightness (Lux)</li> <li>■ 3 Byte DPT 232.600 RGB value</li> </ul>	Setting the type of datapoint to be sent.
Colour control	<ul style="list-style-type: none"> <li>■ <b>RGB</b></li> <li>■ HSV</li> </ul>	Selection of colour system. <b>Only for “RGB value“.</b>
Value Scene number RGB value HSV value	any value according to set datapoint type	Setting the value to be sent when the button is pushed.

Table 15: Settings – Send values – Subfunction: Send values

**Note:** For details on the **innovative group control**, see [4.3.2 Switch \(General\)](#).

**Additional Object**

When selecting ‘additional object’, a further communication object is displayed. In this case, it is possible to transmit different values via two separate objects by one keypress. For example, the first object can be used to transmit a dimming value in percent to a dimming actuator, while the second object simultaneously transmits an RGB value to an LED controller.

The following table shows the associated communication objects:

No.	Name/Object function	Length	Usage
10	PB1: – Switch, Scene ...		Switch function of the button. DPT depending on the parameter setting.
12	PB1: (2. object) – Switch, Scene ...		Switch function of the button that is transmitted via the 2nd object. DPT depending on the parameter setting.
12	PB1: Group long – Switch, Scene ...		Switch function with long keystroke. DPT depending on the parameter setting.
14	PB1: Group extra long – Switch, Scene ...		Switch function with extra long keystroke. DPT depending on the parameter setting.

Table 16: Communication objects – Send values – Subfunction: Send values

### 4.3.3.2 Subfunction: Send values by state

This function allows a fixed value to be sent according to the selected datapoint type when pressing or releasing the button.

The following table shows the available settings:

ETS Text	Dynamic range [Default value]	Comment
Datapoint type	<ul style="list-style-type: none"> <li>■ 2 Bit DPT 2.001 Forcible control</li> <li>■ <b>1Byte DPT 5.001 Percent (0...100%)</b></li> <li>■ 1Byte DPT 5.005 Decimal factor (0...255)</li> <li>■ 1Byte DPT 17.001 Scene number</li> <li>■ 2Byte DPT 7.600 Colour temperature (K)</li> <li>■ 2Byte DPT 9.001 Temperature (°C)</li> <li>■ 2Byte DPT 9.004 Brightness (Lux)</li> <li>■ 3Byte DPT 232.600 RGB value</li> </ul>	Setting the type of datapoint to be sent.
Colour control	<ul style="list-style-type: none"> <li>■ <b>RGB</b></li> <li>■ HSV</li> </ul>	Selection of colour system. <b>Only for “RGB value”.</b>
Value for pressed button Scene number for pressed button	any value according to set datapoint type	Setting the value to be sent when the button is pushed.
Value for released button Scene number for released button	any value according to set datapoint type	Setting the value to be sent when the button is released.

Table 17: Settings – Send values – Subfunction: Send values by state

The value to be sent can be set according to the set datapoint type for pressing and releasing the button.

The following table shows the associated communication objects:

No.	Name/Object function	Length	Usage
10	PB1: – Forcible control, Percent value, ...		Sending the value. DPT depending on the parameter setting.

Table 18: Communication objects – Send values – Subfunction: Send values by state

### 4.3.3.3 Subfunction: Multitouch-function

The “Multitouch-function” can send a fixed value according to the set datapoint type, depending on how often the button is pressed.

**Note:** A fast reaction time on keypress is recommended for the Multitouch-function.

The following table shows the available settings:

ETS Text	Dynamic range [Default value]	Comment
Output objects	<ul style="list-style-type: none"> <li>■ <b>common object/DPT</b></li> <li>■ different objects/DPT</li> </ul>	Setting whether to send to one or more objects.
Number of tip-operations	<ul style="list-style-type: none"> <li>■ 2</li> <li>■ 3</li> </ul>	Settings for the number of possible tip functions.
Datapoint type Datapoint type: tip once	<ul style="list-style-type: none"> <li>■ 1 Bit DPT 1.001 Switch</li> <li>■ 2 Bit DPT 2.001 Forcible control</li> <li>■ <b>1 Byte DPT 5.001 Percent (0...100%)</b></li> <li>■ 1 Byte DPT 5.005 Decimal factor (0...255)</li> <li>■ 1 Byte DPT 17.001 Scene number</li> <li>■ 2 Byte DPT 7.600 Colour temperature (K)</li> <li>■ 2 Byte DPT 9.001 Temperature (°C)</li> <li>■ 2 Byte DPT 9.004 Brightness (Lux)</li> <li>■ 3 Byte DPT 232.600 RGB value</li> </ul>	Setting the type of datapoint to be sent.  The following options are available: <ul style="list-style-type: none"> <li>■ “Datapoint type” if common object</li> <li>■ “Datapoint type: tip once/ twice/triple” if different objects</li> </ul>
Colour control	<ul style="list-style-type: none"> <li>■ <b>RGB</b></li> <li>■ HSV</li> </ul>	Selection of colour system. <b>Only for “RGB value”.</b>
Value tip once Scene number tip once	any value according to set datapoint type	Setting the value to be sent when the button is pushed.
<b>The settings for 2 or 3 touch operations behave in the same way</b>		
3./4. function (long Keypress)	<ul style="list-style-type: none"> <li>■ <b>not active</b></li> <li>■ active</li> </ul>	Setting an additional function by “long button”.
Datapoint type for long keypress	<ul style="list-style-type: none"> <li>■ 1 Bit DPT 1.001 Switch</li> <li>■ 2 Bit DPT 2.001 Forcible control</li> <li>■ <b>1 Byte DPT 5.001 Percent (0...100%)</b></li> <li>■ 1 Byte DPT 5.005 Decimal factor (0...255)</li> <li>■ 1 Byte DPT 17.001 Scene number</li> <li>■ 2 Byte DPT 7.600 Colour temperature (K)</li> <li>■ 2 Byte DPT 9.001 Temperature (°C)</li> <li>■ 2 Byte DPT 9.004 Brightness (Lux)</li> <li>■ 3 Byte DPT 232.600 RGB value</li> </ul>	Setting the type of datapoint to be sent.  <b>Only if “3./4. function (long keypress)” → “active”.</b>
Colour control	<ul style="list-style-type: none"> <li>■ <b>RGB</b></li> <li>■ HSV</li> </ul>	Selection of colour system. <b>Only for “RGB value”.</b>

ETS Text	Dynamic range [Default value]	Comment
Value for long keypress Scene number for long keypress RGB value HSV value	any value according to set datapoint type	Setting the value to be sent when the button is pushed.
Time for long keypress	<b>basic setting</b> 0,1 s – 30,0 s	Setting of a time from when a long keystroke is detected.
Maximum time between two operations	0,1 –30 s <b>[0,5 s]</b>	Setting the maximum time between two key presses.

Table 19: Settings – Send values – Subfunction: Multitouch-function

### Output objects

- **common object/DPT:** The values are sent via one communication object with one datapoint type.
- **different objects/DPT:** Each value is sent via its own communication object. Each value can be assigned its own datapoint type.

### 3./4. function (long keypress)

In addition to the 2 or 3 tip-functions, it is also possible to use a long keypress to assign multiple functions to a button. This function always has its own communication object and datapoint type, regardless of the settings in the “Output objects” menu item.

The following table shows the associated communication objects:

No.	Name/Object function	Length	Usage
10	PB1, tip: – Switch, Forcible control, ...		Sending a value if “common object”. DPT depending on the parameter setting.
10	PB1, 1x tip: – Switch, Forcible control, ...		Sending a value if “different objects”. DPT depending on the parameter setting.
11	PB1, 2x tip: – Switch, Forcible control, ...		Sending a value if “different objects”. DPT depending on the parameter setting.
12	PB1, 3x tip: – Switch, Forcible control, ...		Sending a value if “different objects”. DPT depending on the parameter setting.
13	PB1, long: – Switch, Forcible control, ...		Sending a value for long keypress. DPT depending on the parameter setting.

Table 20: Communication objects – Send values – Subfunction: Multitouch-function

### 4.3.3.4 Subfunction: Toggle values/scenes

This function can be used to switch between up to 4 different values of a datapoint type.

The following table shows the available settings:

ETS Text	Dynamic range [Default value]	Comment
Datapoint type	<ul style="list-style-type: none"> <li>■ 2 Bit DPT 2.001 Forcible control</li> <li>■ <b>1 Byte DPT 5.001 Percent (0...100%)</b></li> <li>■ 1 Byte DPT 5.005 Decimal factor (0...255)</li> <li>■ 1 Byte DPT 17.001 Scene number</li> <li>■ 2 Byte DPT 7.600 Colour temperature (K)</li> <li>■ 2 Byte DPT 9.001 Temperature (°C)</li> <li>■ 2 Byte DPT 9.004 Brightness (Lux)</li> <li>■ 3 Byte DPT 232.600 RGB value</li> </ul>	Setting the type of datapoint to be sent.
Number of values	<ul style="list-style-type: none"> <li>■ 2</li> <li>■ 3</li> <li>■ 4</li> </ul>	Setting between how many values are to be toggled.
Colour control	<ul style="list-style-type: none"> <li>■ <b>RGB</b></li> <li>■ HSV</li> </ul>	Selection of colour system. <b>Only for “RGB value“.</b>
1. (... 4.) Toggle value 1. (... 4.) Toggle Scene number	any value according to set datapoint type	Setting the value to be sent when the button is pushed.
Delay between switchovers	<b>no delay</b> 1 s – 10 s	Setting a delay between sending the toggle values.
Long keypress	<ul style="list-style-type: none"> <li>■ <b>not active</b></li> <li>■ active</li> </ul>	Activating a function with a long keystroke.
Action on long keypress	<ul style="list-style-type: none"> <li>■ <b>[1. Toggle value]</b></li> <li>■ 2. Toggle value</li> <li>■ 3. Toggle value</li> <li>■ 4. Toggle value</li> <li>■ 4. Toggle value if 1. Toggle value was previously set, otherwise 1. Toggle value</li> <li>■ send “0”</li> <li>■ “OFF” to second object</li> <li>■ “ON” to second object</li> <li>■ save scene</li> </ul>	Setting the action with long keypress. Number of possible switching values according to the selection “Number of values”. <b>Only if “Long keypress“ is active.</b> <b>“save scene” only if DPT → “Scene Number”</b>
Time for long keypress	<b>basic setting</b> 0,1 s – 30,0 s	Setting of a time from when a long keystroke is detected.

Table 21: Settings – Send values – Subfunction: Toggle values/scenes

### Functional principle

This function can send up to 4 different values when a button is pressed shortly. The values are toggled one after the other. Depending on the set parameters, for example, when the button is pressed, the 2nd toggle value is sent if the 1st toggle value was previously sent and the 3rd toggle value if the 2nd toggle value was previously sent.

### Delay between switchovers

With this setting, the sending of the telegram is delayed by the set time after the button is pressed. If you press the button again during the delay time, the next toggle value is activated immediately and the delay time is restarted. If, for example, you want to go directly from the 1st toggle value to the 3rd toggle value without activating the second one - with a delay time of 2 seconds - press the key twice within 2 seconds.

### Long keypress

The parameter “Long keypress” can be used to transmit a fixed value for a long keypress in addition to the changeover by a short keypress.

### Action on long keypress

- **1. (... 4.) Toggle value:** A long button press always sends a fixed toggle value (value corresponding to the assigned toggle values).
- **4. Toggle value if 1. Toggle value was previously set, otherwise 1. Toggle value:** The setting sends the 1st switch value with each long button press. If the last switch value sent corresponds to the 1st switch value, the 4th switch value is sent.
- **send “0”:** The setting sends the value “0” to the toggle object. For example, if the datapoint type is set to percent value, the value 0% is sent (not if ‘Datapoint type’ → ‘Scene number’).
- **“OFF” to second object:** The value “OFF” is sent for the long button press on a 2. object.
- **“ON” to second object:** The value “ON” is sent for the long button press on a 2. object.
- **save scene:** The actual scene will be saved (Only if “Datapoint type” → “Scene”)

**Note:** The toggle values are called up one after the other according to the key presses. If the last toggle value in the sequence is called up, the next keypress jumps to the first value.

The following table shows the associated communication objects:

No.	Name/Object function	Length	Usage
0	PB1: – Forcible control, Percent value ...		Transmission of the toggle value. DPT depending on the parameter setting.
1	PB1: – Status: Percent value ...	1 Byte 2 Byte	Receiving of the status. <b>Status for, Forcible control Scene number and RGB values are not available.</b>
2	PB1 long: – Switch	1 Bit	Switch function for long keystroke. <b>Only if “‘ON’/‘OFF’ to second object”.</b>

Table 22: Communication objects – Send values – Subfunction: Toggle values/scenes

### 4.3.4 Switch/send values short/long (with 2 objects)

This function allows two different values to be sent for the short and long keypress. The objects for the short and long buttons can have different datapoint types.

The following table shows the available settings:

ETS Text	Dynamic range [Default value]	Comment
Action on short keypress	<ul style="list-style-type: none"> <li>■ switch OFF</li> <li>■ <b>switch ON</b></li> <li>■ toggle</li> <li>■ send values</li> <li>■ not active</li> </ul>	Setting the function for the short keypress.
<b>If "Action on short keypress" → "Send values"</b>		
Datapoint type	<ul style="list-style-type: none"> <li>■ 2 Bit DPT 2.001 Forcible control</li> <li>■ <b>1 Byte DPT 5.001 Percent (0...100%)</b></li> <li>■ 1 Byte DPT 5.005 Decimal factor (0...255)</li> <li>■ 1 Byte DPT 17.001 Scene number</li> <li>■ 2 Byte DPT 7.600 Colour temperature (K)</li> <li>■ 2 Byte DPT 9.001 Temperature (°C)</li> <li>■ 2 Byte DPT 9.004 Brightness (Lux)</li> <li>■ 3 Byte DPT 232.600 RGB value</li> </ul>	Setting the type of datapoint to be sent.
Colour control	<ul style="list-style-type: none"> <li>■ <b>RGB</b></li> <li>■ HSV</li> </ul>	Selection of colour system. <b>Only for "RGB value".</b>
Value Scene number RGB value HSV value	any value according to set datapoint type	Setting the value that is sent by a short keypress.
Behaviour on long keypress	<ul style="list-style-type: none"> <li>■ <b>do not send "short button"</b></li> <li>■ send "short button"</li> </ul>	Setting whether the value for the short keypress is sent additionally.
Action on long keypress	<ul style="list-style-type: none"> <li>■ <b>switch OFF</b></li> <li>■ switch ON</li> <li>■ toggle</li> <li>■ send values</li> <li>■ not active</li> </ul>	Setting the function for the long button.

ETS Text	Dynamic range [Default value]	Comment
<b>If “Action on long keypress” → “Send values”</b>		
Datapoint type	<ul style="list-style-type: none"> <li>■ 2 Bit DPT 2.001 Forcible control</li> <li>■ <b>1 Byte DPT 5.001 Percent (0...100%)</b></li> <li>■ 1 Byte DPT 5.005 Decimal factor (0...255)</li> <li>■ 1 Byte DPT 17.001 Scene number</li> <li>■ 2 Byte DPT 7.600 Colour temperature (K)</li> <li>■ 2 Byte DPT 9.001 Temperature (°C)</li> <li>■ 2 Byte DPT 9.004 Brightness (Lux)</li> <li>■ 3 Byte DPT 232.600 RGB value</li> </ul>	Setting the type of datapoint to be sent.
Colour control	<ul style="list-style-type: none"> <li>■ <b>RGB</b></li> <li>■ HSV</li> </ul>	Selection of colour system. <b>Only for DPT “RGB value”.</b>
Value Scene number RGB value HSV value	any value according to set datapoint type	Setting the value that is sent by a long keypress.
Time for long keypress	<b>basic setting</b> 0,1 s – 30,0 s	Setting of a time from when a long keypress is detected.

Table 23: Settings – Switch/send values short/long

**Functional principle**

Only one value each can be sent for short and long keypresses. The datapoint type can be set separately for short and long keypresses.

The following table shows the associated communication objects:

No.	Name/Object function	Length	Usage
0	PB1 short: – Switch, Forcible control, ...		Sending the value for the short button. DPT depending on the parameter setting.
1	PB1 short: – Status for toggle	1 Bit	Receive the status for the short button. <b>Only with the “toggle” function.</b>
2	PB1 long: – Switch, Forcible control, ...		Sending the value for the long button. DPT depending on the parameter setting.
3	PB1 long: – Status for toggle	1 Bit	Receive the status for the long button. <b>Only with the “toggle” function.</b>

Table 24: Communication objects – Switch/send values short/long

### 4.3.5 Scene

The scene function is used to call up and save scenes that include multiple devices. If the save function is activated, the scene settings can be saved by a long keypress.

The following table shows the available settings:

ETS Text	Dynamic range [Default value]	Comment
Save scene	<ul style="list-style-type: none"> <li>■ not active</li> <li>■ active</li> </ul>	Enables the saving of scenes. Saving is performed by a long keypress.
Time for long keypress	basic setting 0,1 s – 30,0 s [1,0 s]	Setting the time for the long keypress to save a scene. <b>Only if “Save scene” → “active”.</b>
Scene number	1 – 64 [1]	Setting the scene number.

Table 25: Settings – Scene

#### Functional principle:

- With a **short button**, the set scene is sent.
- With a **long button**, the set scene is saved (if “Save scene” is active).

To call up a scene or save a new value for the scene, the corresponding code is sent to the associated communication object for the scene:

Scene No.	Call up		Save	
	Decimal	Hexadecimal	Decimal	Hexadecimal
1	0	0x00	128	0x80
2	1	0x01	129	0x81
3	2	0x02	130	0x82
...	...	...	...	...
64	63	0x3f	191	0xBF

Table 26: Codes for calling and saving of scenes

The following table shows all available settings:

No.	Name/Object function	Length	Usage
2	PB1: – Scene	1 Byte	Call up/saving of a scene.

Table 27: Communication object – Scene

### 4.3.6 Blinds/Shutter

This function is used to control Shutter Actuators which can be used to adjust and control shutter and blinds.

The following table shows the available settings:

ETS Text	Dynamic range [Default value]	Comment
Operating function	<ul style="list-style-type: none"> <li>■ <b>long=move / short=Stop / Slats Open/Close</b></li> <li>■ short=move / long=Stop / Slats Open/Close</li> <li>■ long=move UP short=Stop / Slats Open</li> <li>■ short=move UP long=Stop / Slats Open</li> <li>■ long=move Down short=Stop / Slats Close</li> <li>■ short=move Down long=Stop / Slats Close</li> </ul>	Setting the concept of how to operate with long/short button.
Time for long keypress	<b>basic setting</b> 0,1 s – 30,0 s	Setting from when a long keypress is detected.
<b>Innovative group control (Only with setting “long=Up/Down /short=Stop/Slats Open/Close”</b>		
Group control extra long	<ul style="list-style-type: none"> <li>■ <b>not active</b></li> <li>■ active</li> </ul>	Activation of the group for extra long keypress.
Time for extra long keypress	0,1 s – 30,0 s <b>[2,0 s]</b>	Setting a time from when an extra long keystroke is detected.

Table 28: Settings – Blinds/Shutter

Two communication objects are displayed for the “blinds/shutter” function: The object “Stop / Slats Open/Close” and the object “Blinds/Shutter Up/Down “.

The moving object is used to move the blinds/shutters “Up” and “Down”.

The stop/step object has two functions: on the one hand, it stops the blinds/shutters from moving up or down if they have not reached the end position, and on the other hand, it is used to adjust the slats.

## Operation function

- **Long=move / Short=Stop / Slats Open/Close**
  - Long:** After each keypress, the blind is toggled between up and down, depending on the last movement executed.
  - Short:** If the end position has not been reached, the movement is stopped and the slats are moved open or closed depending on the last movement.
- **Short=move / Long=Stop / Slats Open/Close**
  - Short:** After each keypress, the blind is toggled between up and down, depending on the last movement executed.
  - Long:** If the end position has not been reached, the movement is stopped and the slats are moved open or closed depending on the last movement.
- **Long=move UP / Short=Stop / Slats Open**
  - Long:** After the keypress, the blind is moved up.
  - Short:** If the end position has not been reached, the movement is stopped and the slats are moved open
- **Short=move UP / Long=Stop / Slats Open**
  - Short:** After the keypress, the blind is moved up.
  - Long:** If the end position has not been reached, the movement is stopped and the slats are moved open
- **Long=move Down / short=Stop / Slats Close**
  - Long:** After the keypress, the blind is moved down.
  - Short:** If the end position has not been reached, the movement is stopped and the slats are moved close
- **Short=move / Down Long=Stop / Slats Close**
  - Short:** After the keypress, the blind is moved down.
  - Long:** If the end position has not been reached, the movement is stopped and the slats are moved close

Since blind actuators always use a "1" signal for descent and a "0" signal for ascent, the button also sends this signals.

### Innovative group control (only if "Long=move / Short=Stop / Slats Open/Close")

By activating 'Extra long group control', the following function sequence is executed:

- If the key is pressed extra long, the single blind starts moving after 0.5 s.
- After another 1.5 s, the group starts with the same movement.
- If "Stop" is then pressed short, all blinds stop.
- If the slat is adjusted with "short", the group also adjusts the slat.

After approx. 90 s the group function is deactivated again internally and a "Stop" only affects the individual channel

The following table shows the associated communication objects:

No.	Name/Object function	Length	Usage
10	PB1: – Blinds/Shutter Up/Down	1 Bit	Up/down command for the shutter actuator.
11	PB1: – Stop / Slats Open/Close	1 Bit	Open/close slats and stop command.
12	PB1: – Status for change of direction	1 Bit	Receipt of status with current information about the direction of the shutter actuator.
13	PB1 Group extra long: – Blinds/Shutter Up/Down	1 Bit	Up/down command for the shutter actuator.
14	PB1 Group extra long: – Stop/Slats Open/Close	1 Bit	Slats control with open/close and stop command.

Table 29: Communication objects – Blinds/Shutter

### 4.3.7 Dimming

The dimming function can be used to control Dimming Actuators.

The following table shows the available settings:

ETS Text	Dynamic range [Default value]	Comment
Time long keypress	<b>basic setting</b> 0,1 s – 30,0 s	Setting of the time from when a long keystroke is to be detected.

Table 30: Settings – Dimming

Two communication objects appear for this button. Firstly, the function for a short button action, the “Dimming On/Off” switch object, and secondly the function for a long button action, the dimming object “Dimming relative”. The dimming function is a start-stop dimming function, this means as soon as the dimming function becomes active, a brighter or darker command is assigned to the input until it is released. After the command is released, a stop telegram is sent which ends the dimming process. The dimming direction (brighter or darker) is reversed in accordance with the communication object ‘Status for toggle’.

The following table shows the associated communication objects:

No.	Name/Object function	Length	Usage
10	PB1: – Dimming On/Off	1 Bit	Switch command for the dimming function.
11	PB1: – Dimming relative	4 Bit	Command for relative dimming.
12	PB1: – Status for toggle	1 Bit	Receives the status of last dimming direction from the actuator to be controlled.

Table 31: Communication objects – Dimming

### 4.3.8 Slap / Cleaning function

**Note:** The Slap /cleaning function is only available with the 4 gang button INT-xxxx4.02S!

The following table shows the available settings:

ETS Text	Dynamic range [Default value]	Comment
Cleaning function	<ul style="list-style-type: none"> <li>■ not active</li> <li>■ cleaning not active, slap active</li> <li>■ <b>cleaning = long button, slap = short button</b></li> <li>■ cleaning = short button, slap = long button</li> </ul>	Activation of the Cleaning-/Slap function and setting if activation via short or long keypress.
Slap function for short keypress Slap function for long keypress	<ul style="list-style-type: none"> <li>■ <b>switch OFF</b></li> <li>■ switch ON</li> <li>■ toggle</li> <li>■ send values</li> <li>■ not active</li> </ul>	Setting the value to be sent for the slap function.
Datapoint type	<ul style="list-style-type: none"> <li>■ 2 Bit DPT 2.001 Forcible control</li> <li>■ <b>1Byte DPT 5.001 Percent (0...100%)</b></li> <li>■ 1Byte DPT 5.005 Decimal factor (0...255)</li> <li>■ 1Byte DPT 17.001 Scene number</li> <li>■ 2Byte DPT 7.600 Colour temperature (K)</li> <li>■ 2Byte DPT 9.001 Temperature (°C)</li> <li>■ 2Byte DPT 9.004 Brightness (Lux)</li> <li>■ 3Byte DPT 232.600 RGB value</li> </ul>	Setting the datapoint type for the value to be sent. <b>Only if “Slap function“ → “send values“.</b>
Colour control	<ul style="list-style-type: none"> <li>■ <b>RGB</b></li> <li>■ HSV</li> </ul>	Selection of colour system. <b>Only for “RGB value“.</b>
Value Scene number RGB value HSV value	any value according to set datapoint type	Setting the value to be sent when the button is pushed.
The settings for the “Slap function for long keypress” behave in a similar way.		
Time for long keypress	<b>basic setting</b> 0,1 s – 30,0 s	Setting of a time from when a long keystroke is detected.
Display behaviour of LEDs	off, red, green, yellow, <b>[blue]</b> , pink, cyan, white, Slap function not signalled via LEDs	LED display behaviour if the slap function is active.
Lock object	<ul style="list-style-type: none"> <li>■ <b>not active</b></li> <li>■ active</li> </ul>	Activation of the lock object for the slap function.

Table 32: Settings – Slap / Cleaning function

**Note:** The Slap / Cleaning function is activated by pressing 3 or more buttons at the same time.

**Cleaning function**

This function locks the function against further operation or sending a telegram for 10 seconds. If other buttons are pressed within these 10 seconds, e.g. when cleaning the button, the device remains locked. The cleaning function is indicated by white flashing of every status LED.

**Slap function (only INT-xxxx4.02S)**

The slap function can be used as an additional button. This allows a specific command to be sent by simply “slapping” the button, e.g. to switch the light on or off when entering a room. The slap function is executed when 3 or more buttons are pressed at the same time. The value to be sent can be set using the “slap function” parameter. An active slap function can be signalled by a configurable colour via the status LEDs. The status LEDs flash briefly in the configured colour.

If the cleaning function is deactivated, values can be sent using the slap function with both, a long and a short keypress.

The following table shows the associated communication objects:

No.	Name/Object function	Length	Usage
90	Slap-button short – Switch OFF, Switch ON, ...		Defines the sending behaviour of the function. DPT depending on the parameter setting.
91	Slap-button short – Status for toggle	1 Bit	Receiving the current status of the actuator to be controlled. <b>Only with “toggle” function.</b>
92	Slap-button long – Switch OFF, Switch ON, ...		Defines the sending behaviour of the function. DPT depending on the parameter setting.
93	Slap-button long – Status for toggle	1 Bit	Receiving the current status of the actuator to be controlled. <b>Only with “toggle” function.</b>
99	Slap-button – Lock object	1 Bit	Locking object for the slap-function.

Table 33: Communication objects – Slap/Cleaning function

## 4.4 Status LED

Depending on the device and its configuration, up to 4 status LEDs can be configured. One LED can be configured for each function, which is then labelled with LED 1 (... 4) in the parameters.

### 4.4.1 LED basic setting

The LED basic settings affect all active status LEDs.

The following table shows all available settings:

ETS Text	Dynamic range [Default value]	Comment
LED colour on button activation, only with setting “Object and button activation”	[off], red, green, yellow, blue, pink, cyan, white	Setting the colour. The parameter only works if the “... object <b>and</b> button activation” parameter is selected in the relevant LED menu under “LED reacts to”.
Lock object for LEDs	<ul style="list-style-type: none"> <li>■ not active</li> <li>■ active</li> </ul>	Activates a lock object which can lock (switch-off) all LEDs.
Behaviour of LEDs on bus power return	<ul style="list-style-type: none"> <li>■ do not request LED objects</li> <li>■ request LED objects</li> </ul>	Setting whether the objects are requested after a reset. <b>Works when “LED reacts for:” → “external Object”.</b>
Synchronisation object for flashing LEDs	<ul style="list-style-type: none"> <li>■ not active</li> <li>■ active as master</li> <li>■ active as slave</li> </ul>	This synchronises the flashing of several buttons on different devices.
Global brightness for LEDs “Day”	<ul style="list-style-type: none"> <li>■ not active</li> <li>■ level 1</li> <li>■ level 2</li> <li>■ level 3</li> <li>■ level 4</li> <li>■ [level 5]</li> <li>■ dynamic</li> </ul>	Adjustment of the brightness of the LEDs in day mode.
Global brightness for LEDs “Night”	<ul style="list-style-type: none"> <li>■ not active</li> <li>■ level 1</li> <li>■ [level 2]</li> <li>■ level 3</li> <li>■ level 4</li> <li>■ level 5</li> <li>■ dynamic</li> </ul>	Adjustment of the brightness of the LEDs in night mode.

ETS Text	Dynamic range [Default value]	Comment
Only if “Global brightness ...” → “dynamic”.		
Datapoint type for dynamic brightness	<ul style="list-style-type: none"> <li>■ 2 Byte DPT 9.004 Ambient Brightness (Lux)</li> <li>■ 1 Byte DPT 5.001 Percent (0...100%)</li> </ul>	Setting the DPT for brightness control.
Threshold for minimum brightness (level 1)	0 ... 1000 Lux [50 Lux]	Setting from which value the brightness level 1/5 is active. <b>Only if “Datapoint for dynamic brightness” → “Ambient Brightness”.</b>
Threshold for maximum brightness (level 5)	0 ... 1000 Lux [500 Lux]	

Table 34: Settings – LED basic setting

### LED colour on button activation

This parameter specifies the colour of all status LEDs of a device, when a button is pressed if they are assigned a double function by the setting “LED reacts to external/internal object **and** button press”. In this case, the settings in the menu items LED 1 (... 4) refer to the control via the object.

### Global brightness for LEDs

The brightness of the LEDs can be set either statically or dynamically. If the brightness is to be adjusted dynamically, it is controlled by a lux or percentage value, depending on how the system is configured. The brightness is set in 5 brightness levels. If a lux value is used, the brightness thresholds are calculated using the minimum and maximum brightness values.

If a percent value is used, the thresholds are fixed as follows:

Level	Lower Percent value	Upper Percent value
1	0 %	20 %
2	21 %	40 %
3	41 %	60 %
4	61 %	80 %
5	81 %	100 %

Table 35: LED brightness thresholds if controlled via percent value

If no valid object value is available, the “Global brightness for “Day” is set to “level 3” and the “Global brightness for “Night” to “level 1”.

### Lock object for LEDs

Unlike the lock objects for the buttons, there is only one lock object for the LEDs, which affects all LEDs. If the LED lock object is controlled with a logical “1”, all LEDs are locked and can therefore no longer be controlled. LEDs that were previously controlled are switched-off. With a logical “0”, the lock is removed and control is possible again. Previous switching states are restored.

**Note:** The cleaning and programming LED function are excluded from the lock function.

**Synchronisation object for flashing LEDs**

This parameter can be used to synchronise the flashing of the status LEDs on different push-buttons. One push-button must be configured as “active as master” and all other buttons as “active as slave”. The “master” sends a synchronisation signal at approx. 10-minute intervals, which the slave LEDs follow. This ensures that every button with a status LED flashes at the same time.

**Threshold for minimum/maximum brightness**

The dynamic brightness control of the LEDs can be based either on the measured values of a brightness sensor or on percent values. The brightness of the LEDs is increased linearly based on the threshold values for minimum and maximum brightness. As long as no object value has been received, the brightness of the LEDs is set to level 3 during the day and to level 1 at night.

The following table shows the associated communication objects:

No.	Name/Object function	Length	Usage
116	LED – Lock object	1 Bit	Switch all LEDs to off, Locking all LEDs.
117	LED - Synchronise – Flashing status as master	1 Bit	Sends the flashing status for synchronisation.
117	LED - Synchronise – Flashing status as Slave	1 Bit	Receives the flashing status for synchronisation.
118	Brightness – Input for dynamic brightness	1 Byte 2 Byte	Input for dynamic brightness adjustment.

Table 36: Communication objects – LED basic setting

### 4.4.2 LED 1 (... 4)

**Note:** The number of LEDs depends on the device type.

The following table shows the available settings:

ETS Text	Dynamic range [Default value]	Comment
LED active	<ul style="list-style-type: none"> <li>■ no</li> <li>■ yes</li> </ul>	Activation of the LED.
LED reacts to:	<ul style="list-style-type: none"> <li>■ external object</li> <li>■ internal object</li> <li>■ <b>button activation</b></li> <li>■ external object and button activation</li> <li>■ internal object and button activation</li> </ul>	Setting in which way the Status LED is controlled.
Selection of object number	0 ... 79 [0]	Link to an internal object. <b>Only if "LED reacts to:" → "internal Object".</b>
Datapoint type	<ul style="list-style-type: none"> <li>■ <b>1 Bit DPT 1.001 Switch</b></li> <li>■ 1 Byte DPT 5001 Percent (0...100%)</li> <li>■ 1 Byte DPT 5.005 Decimal factor (0...255)</li> </ul>	Datapoint type of the external object. <b>Only if "LED reacts to:" → "external Object"</b>
ON, if greater than	0 – 99 % [50 %]	Defines the value at which the LED switches on. <b>Only if "Datapoint type" → "Percent".</b>
Brightness for "Day" (global)	fixed value (cannot be changed here)	Brightness of the LED for day/night. <b>Can be set globally in "LED basic setting" → "Global brightness for LEDs".</b>
Brightness for "Night" (global)		
<b>LED display behaviour</b>		
Colour for "Day" (value ON)	off, red, green, yellow, blue, pink, cyan, [white]	Colour if object value "ON" or the button pressed in day mode.
Colour for "Day" (value OFF)	[off], red, green, yellow, blue, pink, cyan, white	Colour if object value "OFF" or the button is released in "Day" mode.
Behaviour for "Day" (value ON)	<ul style="list-style-type: none"> <li>■ <b>permanent</b></li> <li>■ flashing</li> </ul>	Setting the LED behaviour for "DAY" if the LED has the object value "ON" or the button is pressed.
Colour for "Night" (value ON)	off, red, green, yellow, blue, pink, cyan, [white]	Colour if object value "ON" or the button pressed in "Night" mode.

ETS Text	Dynamic range [Default value]	Comment
Colour for “Night” (value OFF)	[off], red, green, yellow, blue, pink, cyan, white	Colour if object value “OFF” or the button is released in “Night” mode.
Behaviour for “Night” (value ON)	<ul style="list-style-type: none"> <li>■ permanent</li> <li>■ flashing</li> </ul>	Setting the LED behaviour for “Night” if the LED has the object value “ON” or the button is pressed.

Table 37: Settings – LED 1 (... 4)

### Control of the LED

Each LED can either respond to any external object, such as the status of an actuator, or an internal object or on button press.

Each LED can also react to an “external/internal object **and** button press”. If this setting is selected, the settings in the LED 1 (...4) menu refer to the control of the LED via the object. In this case, the colour of the LEDs when the button is pressed is set globally for all LEDs. (see chapter [4.4.1 LED basic setting](#)). The colour for the keypress is of primary importance.

### LED reacts to: internal object

If this setting is selected, an internal object number can be selected to which the LED is linked. If the LED is to switch if, for example, (if button 1 is set to toggle) the “Object 1 – Status for toggle” has the value 1, then object number 1 must be entered. In this case, the status LED would be switched on if the object has a “1” and switched off if the object has a “0”. If the LED is linked to an object that does not have the size 1 Bit, the LED is switched off if the object has the value “0” and switched on if the value of the object is unequal to “0”. For an object with the datapoint type ‘percent value’, this would mean that the LED is switched off at 0% and on for every other value.

**LED reacts to: external object**

If this setting is selected, various datapoint types can be chosen to which the status LED should react to:

- **1 Bit DPT 1.001 Switch:** The LED behaves like the object. The states can be configured if “ON” and “OFF”.
- **1 Byte DPT 5.001 Percent (0...100 %):** The value is specified here from which the LED switches to “ON”. If the specified value is reached, the LED is switched on, and if the value is below the set value, the LED is switched off.
- **1 Byte DPT 5.001 Decimal factor (0...255):** The values from 0 to 7 can be used to specify whether the LED should light up and, if so, which colour it should be:

Value	Colour
0	Off (Black)
1	White
2	Red
3	Green
4	Blue
5	Yellow
6	Pink
7	Cyan

Table 38: Assignment of LED colour to decimal value

**Colour / Behaviour at Day/Night**

Each LED can assume different colours, brightnesses and behaviours for Day and Night mode. The switchover is dependent on the “Day/Night” communication object.

The following table shows the associated communication objects:

No.	Name/Object function	Length	Usage
100	LED 1 – Switch, Percent value, Decimal value	1 Bit 1 Byte	Object for controlling the LED.
<b>+1</b>	<b>next LED</b>		

Table 39: Communication objects – LED 1 (...4)

### 4.4.2.1 Priority

The LED priority can force the status LED into a defined state and thus override control via an external/ internal object or a button press.

The following table shows the available settings:

ETS Text	Dynamic range [Default value]	Comment
Object for priority	<ul style="list-style-type: none"> <li>■ <b>not active</b></li> <li>■ active if object LED priority value = 1</li> <li>■ active if object LED priority value = 0</li> </ul>	Setting the polarity of the “LED priority”.
<b>LED display behaviour</b>		
Colour for “Day”	off, [red], green, yellow, blue, pink, cyan, white	Colour for an active “LED priority” at “Day” mode.
Behaviour for “Day”	<ul style="list-style-type: none"> <li>■ <b>permanent</b></li> <li>■ flashing</li> </ul>	Setting the behaviour for active “LED priority” at “Day” mode.
Colour for “Night”	off, [red], green, yellow, blue, pink, cyan, white	Colour for an active “LED priority” at “Night” mode.
Behaviour for “Night”	<ul style="list-style-type: none"> <li>■ <b>permanent</b></li> <li>■ flashing</li> </ul>	Setting the behaviour for active “LED priority” at “Day” mode.

Table 40: Settings – LED 1 (... 4): Priority

As long as the LED priority is active, the configured state for the LED priority is maintained and the LED does not respond to “normal” control as described in [4.4.2 LED 1 \(... 4\)](#).

The following table shows the associated communication object:

No.	Name/Object function	Length	Usage
66	LED 1 Priority – Switch	1 Bit	Control of LED priority.
<b>+1</b>	<b>next LED Priority</b>		

Table 41: Communication objects – LED 1 (... 4): Priority

## 4.5 Logic

The push-button has 4 separate logic modules that can be activated and individually programmed.

### 4.5.1 Logic basic settings

The following table shows the available settings:

ETS Text	Dynamic range [Default value]	Comment
Setting Logic 1 (... 4)	<ul style="list-style-type: none"><li>■ <b>not active</b></li><li>■ AND</li><li>■ OR</li><li>■ send value on button activation</li></ul>	Activating the logic function and specifying the logical operation or action respectively.
Behaviour on bus power return	<ul style="list-style-type: none"><li>■ <b>do not request external logic objects</b></li><li>■ request external logic objects</li></ul>	Setting whether the objects are actively requested after a reset.

Table 42: Settings – Logic basic setting

#### Setting Logic 1 (... 4)

The logic setting can be used to select either a logic operation (AND/OR) or, with ‘Send value on button actuation’, a special function for sending a second value for an pressed button (description follows under [4.5.2 Setting Logic 1 \(... 4\)](#)).

A separate menu is displayed for each activated logic, in which the function can be configured individually.

#### Behaviour on bus power return

This parameter can be used to set if external logic objects are actively requested after a bus power return.

### 4.5.2 Setting Logic 1 (... 4)

Up to 4 different logic functions can be implemented. Each logic function can link and evaluate up to 2 internal objects and up to 2 buttons.

The following table shows the available settings:

ETS Text	Dynamic range [Default value]	Comment
Function/ Object description	any text [up to 40 characters allowed]	Text input to describe the logic function and its objects.
Additional text	any text [up to 40 characters allowed]	Text input for additional information.
Object type 1 (... 4)	<ul style="list-style-type: none"> <li>■ <b>1 Bit DPT 1.001 Switch</b></li> <li>■ 1 Byte DPT 17.001 Scene number</li> <li>■ 1 Byte DPT 5.005 Decimal factor (0...255)</li> <li>■ 2 Bit DPT 2.001 Forcible control</li> </ul>	Setting the source object type for the logic.
<b>Setting for “Object type 1” → “Switch“</b>		
Sending condition	<ul style="list-style-type: none"> <li>■ not automatic</li> <li>■ on incoming telegram</li> <li>■ <b>on change of output</b></li> <li>■ on change of output (send only “0”)</li> <li>■ on change of output (send only “1”)</li> </ul>	Setting the sending condition for the output object.
Invert output	<ul style="list-style-type: none"> <li>■ <b>no</b></li> <li>■ yes</li> </ul>	Setting for the polarity with which the output object is sent.
<b>Setting for “Object type 1” → “Scene number“</b>		
Scene number	1 – 64 [2]	Set the scene to be sent when the logic condition is true.
<b>Setting for “Object type 1” → “Decimal factor“</b>		
1 Byte Value	0 ... 255 [0]	Set the value to be sent when the logic condition is true.
<b>Setting for “Object type 1” → “Forcible control“</b>		
Forcible control	<ul style="list-style-type: none"> <li>■ 00 – no priority, OFF</li> <li>■ <b>01 – no priority, ON</b></li> <li>■ 10 – priority OFF</li> <li>■ 11 – priority ON</li> </ul>	Set the value to be sent when the logic condition is true.
<b>The settings for logic 2 - 4 correspond to those of logic 1</b>		

Table 43: Settings – Logic 1 (... 4)

### Function/Object description

There are 2 text fields available:

Function/Object description	Light
Additional text	Outdoor lightning terrace

Figure 6: Logic – Text fields: Function/Object description and additional text

Texts with up to 40 characters can be stored for both fields.

The text entered in “**Function/Object description**” appears both in the menu behind the corresponding logic and with the communication objects of the logic:

– Logic basic settings	...	⊞ 121	Logic 1 Light	Output: Value
------------------------	-----	-------	---------------	---------------

Figure 7: Logic – Text fields: Function/Object description

The “**Additional text**” is used only as additional information about the logic and is not displayed anywhere else.

### Sending condition

If a logic operation is fulfilled, the corresponding value is sent.

If the object type is “Switch”, the “**Sending conditions**” are as follows:

- **not automatic:** The output value is not sent automatically.
- **on incoming telegram:** The output value is sent with every input telegram, regardless of whether the output value has changed or not.
- **on change of output:** The output value is only sent if the output value has changed.
- **on change of output (send only “0”):** The output value is only sent if the output value changes and the result of the logic operation is “0”.
- **on change of output (send only “1”):** The output value is only sent if the output value changes and the result of the logic operation is “1”.

### Invert output

With the “switch” object type, the output can be inverted, thus turning a “0” into a “1” and a “1” into a “0”.

The following table shows the associated communication objects:

No.	Name/Object function	Length	Usage
121	Logic 1 – Output: Switch, Value, Scene		Output of the logic operation. DPT according to parameter setting.
+3	next Logic		

Table 44: Communication objects – Logic: Output objects

### 4.5.3 Submenu – Logic 1 (... 4)

A submenu is displayed for each activated logic. The following table shows all available settings:

ETS Text	Dynamic range [Default value]	Comment
Logic object A (B) (external)	<ul style="list-style-type: none"> <li>■ <b>not active</b></li> <li>■ normally active, with preallocation “0”</li> <li>■ inverted active, with preallocation “0”</li> <li>■ normally active, with preallocation “1”</li> <li>■ inverted active, with preallocation “1”</li> </ul>	Activation of external logic objects. The preallocation defines the value of the external logic object after a bus power return, up to a value being received.
Internal Input 1 (2)	<ul style="list-style-type: none"> <li>■ <b>not active</b></li> <li>■ button 1</li> <li>■ button 2</li> <li>■ button 3</li> <li>■ button 4</li> </ul>	Activation of the internal logic objects. <b>The number of buttons depends on the device type.</b>
Button 1 (... 4)	<ul style="list-style-type: none"> <li>■ <b>pressed = ON</b></li> <li>■ pressed = OFF</li> </ul>	Setting the value that is sent if the key is pressed. <b>Only if “Internal input ...” → “active”.</b>
Button selection	<ul style="list-style-type: none"> <li>■ <b>not active</b></li> <li>■ button 1</li> <li>■ button 2</li> <li>■ button 3</li> <li>■ button 4</li> </ul>	Select the button that sends. <b>Only if “Logic basic setting” → “Setting Logic 1” → “send value on button activation”.</b>

The settings for the submenu Logic 2 (... 4) correspond to those of submenu Logic 1

Table 45: Settings – Submenu: Logic 1 (...4)

#### External inputs

Up to two external logic objects can be activated for the logic operations “AND” and “OR”. The default setting specifies the value of the external logic object after a bus power return if no value has been received yet.

#### Internal inputs

Up to two buttons can be defined as ‘internal inputs’, whereby the respective value that the pressed button sends is specified. To use this function, the buttons must be activated under “Button functions” ([4.2 Button functions – General](#)).

**Send value on button activation**

This function is used to send a second value when a button is pressed, in addition to the normal switch function. The value is defined under “Logic basic settings” ([4.5.1 Logic basic settings](#)). The value is defined under ‘Basic logic settings’. The button to send the value is selected here using the ‘Button selection’ parameter.

The following table shows the associated communication objects:

No.	Name/Object function	Length	Usage
119	Logic 1 – Input A	1 Bit	External input for the logic operation
120	Logic 1 – Input B	1 Bit	External input for the logic operation
<b>+3</b>	<b>next Logic</b>		

Table 46: Communication objects – Logic: Input objects

## 4.6 Temperature

The internal temperature sensor can be used to measure and transmit the current temperature in the room.

The following table shows the available settings:

ETS Text	Dynamic range [Default value]	Comment
Temperature measurement	<ul style="list-style-type: none"> <li>■ not active</li> <li>■ <b>active</b></li> </ul>	Activation of the temperature measurement.
Sensor internal/external	<ul style="list-style-type: none"> <li>■ <b>100 % internal</b></li> <li>■ 10 % external / 90 % internal</li> <li>■ 20 % external / 80 % internal</li> <li>...</li> <li>■ 100 % external</li> </ul>	Activation of an external sensor and setting of the weighting between internal and external sensor.
Send measured value cyclically	not active, 1 min – 4 h <b>[5 min]</b>	Setting whether and at what interval the measured value is to be sent cyclically.
Send measurement value on change of	not active, 0,1 °C – 5,0 °C <b>[0,2 °C]</b>	Setting at which change the measured value is to be sent.
Adjustment value for internal temperature	-50 ... 50 x 0,1 K <b>[0]</b>	Increase/decrease the internal measured temperature for adjustment.
Temperature for upper message value	<b>not active</b> 20 °C – 45 °C	Activation of a message when a temperature value is exceeded.
Temperature for lower message value	<b>not active</b> 3 °C – 30 °C	Activation of a message when a temperature value falls below.

Table 47: Settings – Temperature

### Sensor internal/external

The parameter “Sensor internal/external” can be used to activate or deactivate an external sensor. If the weighting is set to 100% internal, the external sensor will not be activated and no communication object will appear for it. With any other setting, an external sensor is activated and the associated object appears. The ‘mixed’ value is sent to the bus via the ‘Temperature – Send measured value’ object.

**Note:** As long as the external sensor does not receive a value via the object, only the internal sensor is used! A “mixed” value (according to the set weighting) is always calculated and output when a new external value is received. External values out of the range ‘-9.9 ... +50 °C’ are not valid. In this case, only the internal value is used.

**Send measured value cyclically**

The parameter can be used to set the intervals at which the sensor sends its current temperature value. The cyclical transmission function can be activated or deactivated independently of the setting “Send measured value on change of”. Measured values are also sent if the sensor has not detected a change. If both parameters are deactivated, a value is never sent.

**Send measurement value on change**

This parameter specifies the change in the current measured value that triggers the sending of a value. If the setting is ‘not active’, no value is transmitted, regardless of how significant the change is.

**Adjustment value for internal temperature**

This value is used to adjust the actual measured value. The ‘Temperature – Send measured value’ object sends the adjusted temperature value.

**Note:** The offset value is entered with the factor “x 0.1 K”. A setting of 25 will raise the temperature value sent by +2.5°C.

**Temperature for upper/lower message value**

Two messages can be output via “Temperature for upper message value” and “Temperature for lower message value” when activated. Both signalling functions each have a separate communication object.

- **Maximum value exceeded:** If the maximum value is exceeded, a “1” is sent. If the value falls below it, a “0” is sent.
- **Minimum value fallen below:** If the value falls below the minimum value, a “1” is sent. If it is exceeded, a “0” is sent.

The following table shows the associated communication objects:

No.	Name/Object function	Length	Usage
143	Temperature – Send measured value	2 Byte	Sends the current temperature.
144	Temperature – External sensor - Input	2 Byte	Reception of an externally measured temperature value.
145	Temperature – Maximum value exceeded	1 Bit	Sends a message when the upper limit is exceeded.
146	Temperature – Minimum value fallen below	1 Bit	Sends a message when the value falls below the lower limit.

Table 48: Communication objects – Temperature

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## 6 Appendix

### 6.1 Legal provisions

The devices described above must not be used in conjunction with devices which directly or indirectly serve human, health, or life-safety purposes. Furthermore, the devices described must not be used if their use may cause danger to people, animals, or property.

Do not leave the packaging material carelessly lying around. Plastic foils/bags or similar can become a dangerous toy for children.

### 6.2 Disposal



Do not dispose of the old devices in the household waste. The device contains electrical components that must be disposed of as electronic waste. The housing is made of recyclable plastic.

### 6.3 Assembly



**Danger to life from electric current!**

The device may only be installed and connected by qualified electricians. Observe the country-specific regulations and the applicable KNX guidelines

The devices are approved for operation in the European Union and in the United Kingdom. The products are respectively marked with the CE and UKCA symbols.

Use in the USA and Canada is prohibited!

### 6.4 History

V 1.0 First version of technical manual

DB V2.0 06/2025