

## Manual Wall presence detector theMura P180 KNX



theMura P180

2069655

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## 1 Function description

## 1.1 Presence detector

#### Presence detector theMura P180 KNX

The detector switches or controls a maximum of two lighting groups dependent on the presence of persons and the current brightness. The light outputs can be dynamically faded up and down by the integrator. The brightness switching value or setpoint value can be set via parameters, object, the app remote control or installation remote control.

The lighting switches on with presence and insufficient brightness, and off with absence or sufficient brightness. Manual switching or dimming can be performed with a push button (internal or external).

When constant lighting control is active, the brightness is held constant at the brightness setpoint value. The control is started fully automatically or manually via push button or remote control. Manual switching off, dimming and scenes stop control for as long as the presence continues.

Up to 2 additional channels transmit the presence information in the room to further devices such as heating, ventilation, air-conditioning or blind controls. Each channel has a switch-on delay and a time delay.

A further channel is used for room monitoring.

The detector also has an integrated scene component and provides the option of processing scene numbers for the lighting groups. In combination with the remote control, the detector is not only capable of switching and dimming its own lighting groups, but also controlling other external consumers such as lights, blinds, etc.

Additional functions such as the integrated orientation light, the integrated temperature measurement, but also the acoustic function allow a variety of additional applications.

1	.1	.1	Style

Element	Example
Parameters, objects	Configuration type, C1 Light
Standard parameter value	Switching light
Parameter page	Scenes

#### 1.1.2 Terminology

Operating mode	Master
	Slave
Configuration type	Fully automatic device
	Semi-automatic device
Light function	Switching
	Constant lighting control
	Constant lighting control without influence of presence

#### 1.1.3 Features

- General:
- Passive infrared KNX presence detector for wall mounting in flush-mounted box
- Cover in Theben design
- KNX Data Secure
- Rectangular detection area, 170°, max. 14 m x 17 m
- Area restriction in scope of delivery
- Automatic presence and brightness-dependent control for lighting and HVAC
- Mixed light measurement suitable for fluorescent lamps (FL/PL/ESL), halogen/incandescent lamps and LEDs
- Setting the room correction factor for brightness measurement calibration
- Detection and sending of current brightness
- Integrated, freely configurable push button (can be deactivated)
- Adjustable detection sensitivity
- Master/Slave parallel switching for gap-free coverage of large areas
- Master/Master parallel switching for several lighting groups with separate light measurement, but joint presence detection
- Test mode for checking function and detection area
- Integrated orientation light (white)
- Red LED controllable via object
- Integrated temperature sensor
- Acoustic function
- 6 logic channels (AND/OR/XOR)
- 2 binary inputs
- Wall installation in flush-mounted box (2-point fixing)
- Wall mounting possible with surface frame from switch manufacturer, additional adapter frame required (Theben accessories)
- KNX firmware update possible (ETS app)
- "theSenda B/theSenda Plug" app control "(option)
- Installation remote control "theSenda P" (option)
- User remote control "theSenda S" (option)
- 2 channels Light, C1 + C2:
- Switching or constant lighting control with standby function (orientation light)
- Switching mode with dimmable lighting
- Fully or semi-automatic, automatic changeover to semi-automatic at night possible
- Brightness switching value or setpoint can be set in lux by using potentiometer (only day), parameter, object or remote control
- Teach-in of the brightness switching value or setpoint
- Adjustable dimming value in standby
- Lighting time delay configurable using potentiometer (only day), parameter, object or remote control
- Reduction of time delay when present briefly (short-term presence)
- Day/night changeover via telegram
- Manual override via integrated push button, telegram or remote control
- Separate block telegram
- Scene controls with two scenes
- Scene functionality with scene numbers



- 2 channels HVAC, C4 + C5:
- Configurable switch-on delay and time delay
- Sending of operating mode
- Separate block telegram
- 1 room monitoring channel, C6:
- Transmitting information of presence
- Cyclical sabotage object

#### 1.1.4 Proper Use

The KNX presence and motion detectors theMura are perfect for energy-efficient lighting control in corridors, staircases, individual offices, basements and lavatories. They are simply mounted on the wall. The **theMura P180 KNX presence detector** comes with a freely configurable push button, six logic channels, two lighting and two presence channels, an integrated temperature and acoustic sensor, as well as a push-button interface. Further convenient functions are the orientation light for increased safety in the dark and day/night switching for greater flexibility. The motion detector theMura S180 KNX convinces with an integrated push button, three logic channels as well as one light and one HVAC channel.

All theMura devices for KNX building automation support KNX Data Secure and are thus optimally protected against data theft and tampering.

As all devices in the theMura product range, the KNX wall detectors also feature a large detection area of 14 x 17 m as well as a particularly slim and attractive design. Moreover, they can be used with all common switch ranges of leading manufacturers by means of adapter frames.



Note: The white orientation light is only included in theMura P180 KNX.



## 2 Installation

iglion For installation in device housing, concealed housing size 1.

iglion Theben accessories can be used with bezel frames from other switch ranges.

0 Observe the recommended installation height of 0.8 m – 1.2 m!

iglion Ensure that there are no obstructions, as infrared rays cannot pass through solid objects.

The detector is not suitable for intruder alarm systems!

### 2.1 Connection



**Important**: Do not connect mains voltage (230 V) or other external voltages to the binary inputs!



## 2.2 Detection area

#### Detection area of theMura P180 KNX

The rectangular detection area of detector covers a large area and permits a good room coverage with many applications. Note that frontally (radially) and transversally (tangentially) walking persons are detected in differently-sized areas. The recommended installation height is 0.8-1.2 m. The detection range decreases with increasing temperature. The sensitivity can be adjusted in 3 increments via parameter or remote control. The detection area can also be limited with the enclosed stickers.



Abstrahlwinkel: +15  $^{\circ}$  ... –30  $^{\circ}$ 



Erfassungswinkel: 170 °

#### 2.2.1 Limiting the detection area

- > Use the enclosed sticker to adjust the detector to the desired detection area.
- > Remove the required section of the sticker using scissors.
- Then stick it to the lens.





## 2.3 Flush mounting



## 2.4 Setting options via potentiometer



#### 2.4.1 Setting the brightness (LUX)

You can set different brightness values with the brightness potentiometer.

Set the potentiometer to desired switch-on brightness (5 – 1000 lux/on).
 On the ON setting, the detector always responds to motion, regardless of the brightness.

 $igodoldsymbol{igo$ 

A separate brightness value for the night (for day/night changeover) can be set or changed in the ETS application or with the app/remote control.

Turn the potentiometer to Teach-in; after 20 s (red LED flashes) the detector saves the current surrounding brightness as the new switch-on brightness.

It is always the switching value/setpoint that is active when the teach-in is carried out that is changed:

Brightness switching value C1/Brightness setpoint C1

Brightness switching value C1 <u>Night</u> / Brightness setpoint C1 <u>Night</u>

#### 2.4.2 Setting the time delay (TIME)

If the detector detects no further motion, it switches off after the set time delay.

- > Set the potentiometer to the desired time (30 s 60 min.).
- > Test function see test behaviour in the chapter Presence test mode.



A separate time delay for the night (for day/night changeover) can be set or changed in the ETS application or with the app/remote control.

#### 2.4.3 Activating the programming mode (PROG MODE)

#### PROG MODE off

Programming mode is not activated.

#### PROG MODE on

Programming mode is activated. After the download has been completed, programming mode is automatically deactivated.

Programming mode can also be activated via remote control, see chapter **Parameters and** control commands via remote control.

#### 2.4.4 Dimensions





## 3 Technical data

Recommended installation height	0.8 – 1.2 m
Max. detection area	14 x 17 m l 238 m² walking transversally (tangentially) 12 x 10 m l 120 m² walking frontally (radially)
Detection angle	170°
KNX operating voltage	21 – 32 V DC
KNX medium	TP1-256
KNX bus power input	< 12 mA (typical)
Type of installation	Wall mounting: - flush-mounting - surface mounting possible with surface frame from switch manufacturer, additional adapter frame is required (Theben accessories)
Setting range brightness switching value/setpoint value	5 – 3000 lx
Lighting time delay	30 s – 60 min
Standby dimming value	1 – 100% of the lamp output
Light standby time	30 s – 60 min/permanently on/inactive
HVAC switch-on delay	10 s – 30 min/inactive
HVAC time delay	10 s – 120 min
Measurement range of temperature sensor	-5 +45° C
Connection type	KNX bus terminal
Protection rating	IP 20 in accordance with EN 60529
Ambient temperature	-15 °C +45 °C
Protection class	
Pollution degree	2
Rated impulse voltage	0.8 kV
Software	Class A



## 4 General information about KNX Secure

ETS5 Version 5.5 and higher support secure communication in KNX systems. A distinction is made between secure communication via the IP medium using KNX IP Secure and secure communication via the TP and RF media using KNX Data Secure. The following information refers to KNX Data Secure.

In the ETS catalogue, KNX products supporting "KNX Secure" are clearly marked. 4

As soon as a "KNX-Secure" device is included in the project, the ETS requests a project password. If no password is entered, the device is included with Secure Mode deactivated. However, the password can also be entered or changed later in the project overview.

## 4.1 Start-up with "KNX Data Secure"

For secure communication, the FDSK (Factory Device Setup Key) is required. If a KNX product supporting "KNX Data Secure" is included in a line, the ETS requires the input of the FDSK. This device-specific key is printed on the device label and can either be entered by keyboard or read by using a code scanner or notebook camera.

Example of FDSK on device label:



After entering the FDSK, the ETS generates a device-specific tool key. The ETS sends the tool key to the device to be configured via the bus. The transmission is encrypted and authenticated with the original and previously entered FDSK key. Neither the tool key nor the FDSK key are sent in plain text via the bus.

After the previous action, the device only accepts the tool key for further communication with the ETS.

The FDSK key is no longer used for further communication, unless the device is reset to the factory setting: In this case, all set safety-related data will be deleted.

The ETS generates as many runtime keys as needed for the group communication you want to protect. The ETS sends the runtime keys to the device to be configured via the bus.

Transmission takes place by encrypting and authenticating them via the tool key. The runtime keys are never sent in plain text via the bus.

The FDSK is saved in the project and can be viewed in the project overview. All keys for this project can also be exported (backup).

During project planning, it can be defined subsequently which functions/objects are to communicate securely. All objects with encrypted communication are identified by the "Secure"

icon in the ETS.



## 4.2 Start-up without "KNX Data Secure"

Alternatively, the device can also be put into operation without KNX Data Secure. In this case, the device is unsecured and behaves like any other KNX device without KNX Data Secure function.

To start up the device without KNX Data Secure, select the device in the 'Topology' or 'Devices' section and set the 'Secure start-up' option in the 'Properties' area of the 'Settings' tab to 'Disabled'.



# 5 Parameters and control commands via remote control

The following parameters can be viewed or changed via the remote control for support during start-up as well as servicing:

Parameters	View	Changeable	Changeable
	theSenda B/app	theSenda B/app	theSenda P
Brightness setpoint value C1	Х	Х	Х
Brightness setpoint night C1	Х	Х	
Brightness actual value C1	Х		
Room correction factor C1	Х	Х	
Brightness measurement value		Х	
C1			
Detection sensitivity	Х	Х	Х
Detection sensitivity night	Х	Х	
Lighting time delay		Х	Х
Lighting time delay night		Х	
Orientation light brightness		Х	
Acoustic sensor sensitivity	Х	Х	
Acoustic sensor sensitivity night	Х	Х	
Temperature measurement value		Х	
Temperature actual value	Х		

The parameters are sent to the detector by infrared. Changed parameters are applied and used.

To check the parameters

 $\succ$  press the button ? and follow the instructions in the app.

#### The following control commands can be triggered with the remote control:

Parameters	Can be triggered	Can be triggered	Can be triggered
	via	via	via
	theSenda B/app	theSenda P	theSenda S
Programming mode	Х	Х	
Teach-in C1	Х	Х	
Master/Slave?	Х		
Switching light	Х	Х	Х
Presence test	Х	Х	
Light test	Х		
Restart	Х	Х	



# 5.1 Connecting a mobile device to the theSenda B/app remote control

- > Open "theSenda Plug" app.
- > Press the Bluetooth icon in the app on upper left.
- Briefly press the Bluetooth button on theSenda B.
  LED flashes red, devices are searched.
- ➤ Confirm with OK.
  - → LED lights up red.

## 5.2 Feedback about sent parameters

After sending the parameters with the remote control, the following feedback is given via the LED integrated in the detector:

#### Flickering for 2 s

After sending the new parameter with remote control or app, the detector indicates the correct reception by flickering for 2 s.

#### Lighting up briefly

The parameter/command sent from the remote control was rejected by the detector. The command is not valid.

Check the selected detector type and sent parameters with remote control or app remote control (app).

Adjustment of parameters does not change the settings in ETS.



# 6 Parameters and control commands via app/remote control

## 6.1 Parameters

Brightness setpoint value C1



theSenda B/app

theSenda P

Brightness setpoint night C1



theSenda B/app

#### Brightness actual value C1

Query of the currently measured actual brightness value (room correction factor C1 taken into account).

> Follow the instructions in the app.

#### Room correction factor C1

The room correction factor is a measurement for the difference of the brightness measurement at the wall and on the floor. The brightness measurement value at the wall is influenced by the installation location, incidence of light, position of the sun, weather conditions, the reflection properties of the room, and the furniture.

With the room correction factor, the brightness measurement value of lighting channel C1 is adjusted to the conditions in the room. The standard value is 0.3 and is suitable for most





applications.

Changes only make sense in highly deviating situations.

For more information, see chapter **Brightness switching/setpoint value**.

#### Brightness measurement value C1

When the actual brightness measurement is sent to the detector, the room correction factor is recalculated.

- After selecting the parameter Brightness measurement C1 either press Input and enter brightness measurement value C1 manually.
- > or follow the instructions in the app and confirm with OK.
  - → The current brightness measurement value is displayed.
- > Confirm with OK.
- > Send the current brightness measurement value to the detector.

#### **Detection sensitivity**

The detector has 3 sensitivity levels for motion detection:

Level	Sensitivity
1 ()	Very insensitive
2 (-)	Insensitive
3 (Standard)	Standard





theSenda B/app

theSenda P



#### Detection sensitivity night



theSenda B/app

#### Switch off delay light





theSenda B/app

theSenda P

#### Switch off delay night

18:47			1	8 at 151 (192)
← *				+ 🛜
	Basic	<b>T</b>		
Brightness se Detection ser	Switch-off delay li	ight night		↓ ·
Switch-off de			00h 10min 00s 🥒	
00h 10min (	30s		01h 00min 00s	Î Â   <sub>≡</sub>
Switch-off c	Cancel		OK	
00h 10min 0	Os			

theSenda B/app

#### Brightness orientation light

13:59				N	६ जाः सिंह (1910)	
$\leftarrow *$						
ſ	Basic		Exp	pert		-
Actual brigh Bri	ghtness orientat	tion light		R/	?	D
Room corr. f 0.30			1	100		Ξ
Bright. mea: 400 lx	Cancel		OK		Ĩ <sup>ˆ</sup>	

theSenda B/app

#### Acoustic sensor sensitivity/Acoustic sensor sensitivity night The detector has 4 levels for acoustic detection:

Level	Sensitivity
Off (default)	The acoustic sensor is switched off.
1 ()	Very insensitive
2 (-)	Insensitive
3	Sensitive

#### Temperature measurement value



theSenda B/app



It is recommended to calibrate the temperature measurement due to self-heating at the earliest 30 min after start-up.

If the temperature measurement value to be sent is more than +/- 5 K apart from the temperature that the detector is actually measuring, the command will be rejected by the detector.

#### Temperature actual value

Query of the currently measured actual temperature value (temperature offset taken into account).

> Follow the instructions in the app.



## 6.2 Control commands

#### Programming mode

13:47	<b>13</b> 8 au	11 B	
← ∦ Control c	ommand	ls	
IIIII the Mura P180	I KNX	·승규 2971x	
Programming mode		$\widehat{\uparrow}$	
Teach-in C1		Â	
Master/slave?	MASTER	SLAVE	
Switch light	Q	- <u>Ğ</u> -	
Test presence	DFF		
Test lighting	OFF	ON	
Restart		Â	
= 0	$\triangleleft$		



theSenda B/app

theSenda P

#### Teach-in C1



theSenda B/app

theSenda P

Always that setpoint is changed which is active when the teach-in is carried out: Brightness setpoint value C1 Brightness setpoint C1 night



#### Master/Slave?

13:47	🛛 និតា 🖏 🗵
← ∦ Control	commands
mm the Mura P18	0 KNX -0
Programming mode	Â
Teach-in C1	- Â
Master/slave?	MASTER
Switch light	Q - Ý-
Test presence	DFF ON
Test lighting	OFF ON
Restart	$\widehat{\hat{\uparrow}}$
= 0	<

theSenda B/app

#### Switch light





theSenda B/app

S

theSenda B

theSenda P



theSenda

#### Test presence See chapter **Presence test mode**.

Test lighting See chapter Presence test mode.





#### Restart





theSenda B/app

theSenda P



## 7 The application programme theMura

## 7.1 Selection in the product database

Manufacturer	<u>Theben AG</u>
Product family	Physical sensors
Product type	Presence detector
Programme name	theMura P180 KNX

Number of communication objects	129
Number of group addresses	255
Number of associations	255



The ETS database can be found on our website: <u>www.theben.de/downloads</u>



## 7.2 Overview of communication objects

## 7.2.1 Lighting channels C1, C2

No	Object name	Function	Length	R	W	С	Т	U	DPT
1	C1 Light output	Switching	1 bit	R	W	С	Т	1	1.001
2	C1 Light input	Switching external push button	1 bit	-	W	С	-	-	1.001
3	C1 Light output	Brighter/darker	4 bit	R	-	С	Т	-	3.007
4	C1 Light input	External button brighter/darker	4 bit	-	W	С	-	-	3.007
5	C1 Light output	Send value	1 byte	R	-	С	Т	-	5.001
6	C1 Light input	Send value external push button	1 byte	-	W	С	-	-	5.001
7	C1 Light input	Feedback value	1 byte	-	W	С	Т	U	5.001
1.1	C1 brightness switching value	Receive value	2 byte s	-	W	С	-	-	9.004
	C1 brightness setpoint value	Receive value	2 byte s	-	W	С	-	-	9.004
10	C1 brightness switching value	Send value	2 byte s	R	-	С	Т	-	9.004
12	C1 brightness setpoint value	Send value	2 byte s	R	-	С	Т	-	9.004
10	C1 brightness switching value night	Receive value	2 byte s	-	W	С	-	-	9.004
13	C1 brightness setpoint value night	Receive value	2 byte s	-	W	С	-	-	9.004
1/	C1 brightness switching value night	Send value	2 byte s	R	-	С	Т	-	9.004
14	C1 brightness setpoint value night	Send value	2 byte s	R	-	С	Т	-	9.004
1 -	C1 brightness switching value (teach-in)	\$01= call up/ \$81 = save	1 byte	-	W	С	-	-	18.001
15	C1 brightness setpoint value (teach-in)	\$01= call up/ \$81 = save	1 byte	-	W	С	-	-	18.001
18	Measurement value on lux meter	Receive value	2 byte s	-	W	С	-	-	9.004
19	Room correction factor	Call up value	2 byte s	R	-	С	Т	-	9.xxx
20	Brightness value	Send lux value	2 byte s	R	-	С	Т	-	9.004
21	External brightness value	Receive lux value	2 byte s	-	W	С	-	-	9.004
22	Measurement value temperature	Receive value	2 byte s	-	W	С	-	-	9.001
23	Temperature offset	Call up value	2 byte s	R	-	С	Т	-	9.002
24	Temperature value	Send value	2 byte s	R	-	С	Т	-	9.001
28	C2 Light output	Switching	1 bit	R	-	С	Т	-	1.001
29	C2 Light input	Switching external push	1 bit	-	W	С	-	-	1.001



No	Object name	Function	Length	R	W	С	Т	U	DPT
		button							
30	C2 Light output	Brighter/darker	4 bit	R	-	С	Т	I	3.007
31	C2 Light input	External button brighter/darker	4 bit	-	W	С	-	-	3.007
32	C2 Light output	Send value	1 byte	R	1	С	Т	I	5.001
33	C2 Light input	Send value external push button	1 byte	-	W	С	-	-	5.001
34	C2 Light input	Feedback value	1 byte	-	W	С	Т	U	5.001
38	C1, C2 light	Day-night changeover	1 bit	-	W	С	-	I	1.003
20	C1, C2 light	Selection of constant lighting control	1 bit	-	W	С	-	-	1.003
23	C1, C2 light constant lighting control	Activate/deactivate	1 bit	-	W	С	-	-	1.003
40	C1, C2 light	Standby function	1 bit	1	W	С	-	I	1.003
41	C1, C2 lighting time delay	Receive value	2 byte s	-	W	С	-	I	7.005
42	C1, C2 lighting time delay	Send value	2 byte s	R	-	С	Т	I	7.005
43	C1, C2 lighting time delay night	Receive value	2 byte s	-	W	С	-	I	7.005
44	C1, C2 lighting time delay night	Send value	2 byte s	R	-	С	Т	I	7.005
45	C1, C2 light	Block/unblock	1 bit	-	W	С	-	I	1.003
46	Central command	Receive	1 bit	-	W	С	-	I	1.001
47	External scene	Receive	1 byte	-	W	С	-	-	18.001
48	Red LED	Receive	1 bit	-	W	С	-	-	1.001
49	Orientation light	Receive	1 bit	-	W	С	-	-	1.003

## 7.2.2 HVAC channels C4, C5

No.	Object name	Function	Lengt h	R	W	С	Т	U	DPT		
		Switching	1 bit	R	-	С	Т	I	1.001		
		Priority	2 bit	R	-	С	Т	-	2.001		
E 0	CL 1 LIVAC	Send value	1 byte	R	-	С	Т	-	5.010		
50	C4.1 TVAC	Send percentage value	1 byte	R	-	С	Т	-	5.001		
		Send HVAC operating mode	1 byte	R	-	С	Т	I	20.102		
		Send scene	1 byte	R	-	С	Т	I	17.001		
		Switching	1 bit	R	-	С	Т	I	1.001		
		Priority	2 bit	R	-	С	Т	I	2.001		
F 1	C = U U A C	Send value	1 byte	R	-	С	Т	I	5.010		
51	L4.2 HVAL	Send percentage value	1 byte	R	-	С	Т	I	5.001		
		Send HVAC operating mode	1 byte	R	-	С	Т	I	20.102		
		Send scene	1 byte	R	-	С	Т	I	17.001		
52	C4 HVAC	Block/unblock	1 bit	-	W	С	I	1	1.003		
53. .55		Channel C5 (details: see channel C4)									



## 7.2.3 Room monitoring C6

No.	Object name	Function	Length	R	W	С	Т	U	DPT
56	C6 room monitoring	Message	1 bit	-	-	С	Т	-	1.005
57	C6 room monitoring	Confirmation	1 bit	-	W	С	-	-	1.016
58	C6 room monitoring	Sabotage cyclically	1 bit	-	-	С	Т	-	1.005
59	C6 room monitoring	Release	1 bit	-	W	С	-	-	1.003

#### 7.2.4 General objects

No	Object name	Function	Length	R	W	С	Т	U	DPT
60	Parallel switching output	Trigger output	1 bit	I	-	С	Т	1	1.017
61	Parallel switching input	Trigger input	1 bit	-	W	С	I	I	1.017
62	Aura effect output	Send motion status	2 byte s	-	-	С	Т	-	7.005
63	Aura effect input	Receive motion status	2 byte s	-	W	С	-	-	7.005
64	Aura effect	Enable	1 bit	-	W	С	I	I	1.003
65	Scene input	Scene 1/2	1 bit	-	W	С	I	١	1.022
66	Scene output	Scene number	1 byte	-	-	С	Т	١	18.001
67	IR switching external 1	Switching	1 bit	-	-	С	Т	١	1.001
68	IR dimming external 1	Brighter/darker	4 bit	-	-	С	Т	١	3.007
69	IR switching external 2	Switching	1 bit	-	-	С	Т	I	1.001
70	IR dimming external 2	Brighter/darker	4 bit	-	-	С	Т	١	3.007
71	IR external blinds 1	Blinds Up/Down	1 bit	-	-	С	Т	١	1.001
72	IR external blinds 1	Open/close slats	1 bit	-	-	С	Т	-	1.009
73	IR external blinds 2	Blinds Up/Down	1 bit	-	-	С	Т	-	1.001
74	IR external blinds 2	Open/close slats	1 bit	I	-	С	Т	1	1.009
75	Test mode presence	On/Off	1 bit	I	W	С	1	1	1.001
76	Test mode light	On/Off	1 bit	-	W	С	I	I	1.001
77	Software version	Send	2 byte s	R	-	С	Т	-	217.001



### 7.2.5 Logic channels C18-C23

No.	Object name	Function	Length	R	W	С	Т	U	DPT		
	C18 Logic module	Logic input 1 in AND gate	1 bit	-	W	С	-	U	1.002		
80	C18 Logic module	Logic input 1 in OR gate	1 bit	-	W	С	-	U	1.002		
	C18 Logic module	Logic input 1 in XOR gate	1 bit	-	W	С	-	U	1.002		
	C18 Logic module	Logic input 2 in AND gate	1 bit	-	W	С	-	U	1.002		
81	C18 Logic module	Logic input 2 in OR gate	1 bit	-	W	С	-	U	1.002		
	C18 Logic module	Logic input 2 in XOR gate	1 bit	-	W	С	-	U	1.002		
0.7	C18 Logic module	Logic input 3 in AND gate	1 bit	I	W	С	I	U	1.002		
02	C18 Logic module	Logic input 3 in OR gate	1 bit	-	W	С	I	U	1.002		
07	C18 Logic module	Logic input 4 in AND gate	1 bit	-	W	С	I	U	1.002		
03	C18 Logic module	Logic input 4 in OR gate	1 bit	-	W	С	I	U	1.002		
84	C18 Logic module	Block/unblock	1 bit	-	W	С	I	-	1.003		
	C18.1 Logic module	Switching	1 bit	R	-	С	Т	-	1.001		
	C18.1 Logic module	Priority	2 bit	R	-	С	Т	-	2.001		
05	C18.1 Logic module	Valuator	1 byte	R	-	С	Т	-	5.010		
00	C18.1 Logic module	Percentage value	1 byte	R	-	С	Т	-	5.001		
	C18.1 Logic module	HVAC operating mode	1 byte	R	-	С	Т	-	20.102		
	C18.1 Logic module	Scenes	1 byte	R	-	С	Т	-	17.001		
	C18.2 Logic module	Switching	1 bit	R	-	С	Т	-	1.001		
	C18.2 Logic module	Priority	2 bit	R	-	С	Т	-	2.001		
06	C18.2 Logic module	Valuator	1 byte	R	-	С	Т	-	5.010		
00	C18.2 Logic module	Percentage value	1 byte	R	-	С	Т	-	5.001		
	C18.2 Logic module	HVAC operating mode	1 byte	R	-	С	Т	-	20.102		
	C18.2 Logic module	Scenes	1 byte	R	-	С	Т	-	17.001		
90- 136	Channels C19-C23 (details: see channel C18)										



No.	Object name	Function	Length	R	W	С	Т	U	DPT
		Switching	1 bit	R	W	С	Т	1	1.001
201	latagested such button 11 1	Priority	2 bit	R	I	С	Т	I	2.001
201		Send value	1 byte	R	I	С	Т	I	5.010
		Send percentage value	1 byte	R	-	С	Т	-	5.001
	Integrated push button 11.2	Switching	1 bit	R	W	С	Т	1	1.001
202		Priority	2 bit	R	-	С	Т	-	2.001
202		Send value	1 byte	R	-	С	Т	-	5.010
		Send percentage value	1 byte	R	-	С	Т	-	5.001
205	Integrated push button I1	Block = 1	1 bit	-	W	С	-	-	1.001
		Block = 0	1 bit	-	W	С	-	-	1.003

### 7.2.6 Integrated push button I1: Push button function

### 7.2.7 Integrated push button I1: Dimming function

No.	Object name	Function	Length	R	W	С	Т	U	DPT	
201	Integrated push button I1	Switching	1 bit	R	W	С	Т	I	1.001	
		Brighter/darker	4 bit	R	-	С	Т	I	3.007	
202	Integrated push button I1	Brighter	4 bit	R	-	С	Т	I	3.007	
		Darker	4 bit	R	-	С	Т	-	3.007	
Dout	Double-click									
		Switching	1 bit	R	W	С	Т	I	1.001	
202		Priority	2 bit	R	-	С	Т	I	2.001	
203	Integrated push button IT. I	Send value	1 byte	R	-	С	Т	-	5.010	
		Send percentage value	1 byte	R	-	С	Т	-	5.001	
205	latageted auch button 1	Block = 1	1 bit	I	W	С	-	-	1.001	
205	πτεγιατεύ ρυςη ουττοη Π	Block = 0	1 bit	-	W	С	-	-	1.003	



#### 7.2.8 Integrated push button I1: Blinds function

No.	Object name	Function	Length	R	W	С	Т	U	DPT	
201	Integrated push button I1	Step/stop	1 bit	R	-	С	Т	I	1.010	
		UP/DOWN	1 bit	R	W	С	Т	-	1.008	
202	Integrated push button I1	DOWN	1 bit	R	-	С	Т	-	1.008	
		UP	1 bit	R	-	С	Т	I	1.008	
Dou	Double-click									
		Switching	1 bit	R	W	С	Т	-	1.001	
		Priority	2 bit	R	-	С	Т	-	2.001	
203	Integrated push button 11.1	Send value	1 byte	R	-	С	Т	-	5.010	
		Send percentage value	1 byte	R	-	С	Т	I	5.001	
		Height % 1	1 byte	R	-	С	Т	-	5.001	
204	Integrated push button 11.2	Slat % 2	1 byte	R	-	С	Т	-	5.001	
205	205 Integrated push button 11	Block = 1	1 bit	-	W	С	-	-	1.001	
205		Block = 0	1 bit	-	W	С	-	-	1.003	

#### 7.2.9 Integrated push button I1: Direct switching, direct dimming

No.	Object name	Function	Length	R	W	С	Т	U	DPT
205 Jaka and and hitter 11	Block = 1	1 bit	-	W	С	-	-	1.001	
205		Block = 0	1 bit	-	W	С	-	I	1.003

#### 7.2.10 External inputs I2, I3: Switch function

No.	Object name	Function	Length	R	W	С	Т	U	DPT
		Switching	1 bit	R	W	С	Т	1	1.001
211	locut 12 1	Priority	2 bit	R	I	С	Т	I	2.001
211	Input 12.   	Send value	1 byte	R	I	С	Т	I	5.010
		Send percentage value	1 byte	R	-	С	Т	-	5.001
		Switching	1 bit	R	W	С	Т	-	1.001
212	10044177	Priority	2 bit	R	-	С	Т	-	2.001
212	<i>IIIput 12.2</i>	Send value	1 byte	R	-	С	Т	-	5.010
		Send percentage value	1 byte	R	-	С	Т	1	5.001
215		Block = 1	1 bit	-	W	С	-	-	1.001
215	וווףטנ וב	Block = 0	1 bit	-	W	С	-	-	1.003

 $<sup>^1</sup>$  Upon double-click with object type = Height % + slat %  $^2$  Upon double-click with object type = Height % + slat %



No.	Object name	Function	Length	R	W	С	Т	U	DPT
221- 225	Input I3 (details: see input I2)								

### 7.2.11 External inputs I2, I3: Push button function

No.	Object name	Function	Length	R	W	С	Т	U	DPT
		Switching	1 bit	-	W	С	Т	-	1.001
211	locut 12 1	Priority	2 bit	-	-	С	Т	-	2.001
211		Send value	1 byte	-	-	С	Т	-	5.010
		Send percentage value	1 byte	-	-	С	Т	-	5.001
	Input I2.2	Switching	1 bit	-	W	С	Т	-	1.001
212		Priority	2 bit	-	-	С	Т	-	2.001
212		Send value	1 byte	-	-	С	Т	1	5.010
		Send percentage value	1 byte	-	-	С	Т	1	5.001
215	locut 17	Block = 1	1 bit	-	W	С	-	1	1.001
215	INPUT IZ	Block = 0	1 bit	-	W	С	-	1	1.003
221- 225	Input I3 (details: see input I2)								

#### 7.2.12 External inputs I2, I3: Dimming function

No.	Object name	Function	Length	R	W	С	Т	U	DPT	
211	Input I2	Switching	1 bit	R	W	С	Т	I	1.001	
		Brighter/darker	4 bit	R	I	С	Т	-	3.007	
212	Input I2	Brighter	4 bit	R	-	С	Т	-	3.007	
		Darker	4 bit	R	I	С	Т	-	3.007	
Doubl	Double-click									
	Input I2.1	Switching	1 bit	R	W	С	Т	I	1.001	
212		Priority	2 bit	R	-	С	Т	-	2.001	
213		Send value	1 byte	R	-	С	Т	I	5.010	
		Send percentage value	1 byte	R	-	С	Т	I	5.001	
215	locut 12	Block = 1	1 bit	I	W	С	-	I	1.001	
215		Block = 0	1 bit	-	W	С	-	I	1.003	
221- 225	Input I3 (details: see input I2)									



No.	Object name	Function	Length	R	W	С	Т	U	DPT	
211	Input I2	Step/stop	1 bit	1	-	С	Т	1	1.010	
		UP/DOWN	1 bit	R	W	С	Т	1	1.008	
212	Input I2	DOWN	1 bit	R	I	С	Т	I	1.008	
		UP	1 bit	R	-	С	Т	1	1.008	
Doub	Double-click									
	Input I2.1	Switching	1 bit	R	W	С	Т	I	1.001	
		Priority	2 bit	R	I	С	Т	I	2.001	
213		Send value	1 byte	R	I	С	Т	I	5.010	
		Send percentage value	1 byte	R	I	С	Т	I	5.001	
		Height %.3	1 byte	R	-	С	Т	-	5.001	
214	Input I2.2	Slat % .4	1 byte	R	-	С	Т	-	5.001	
215	locut 17	Block = 1	1 bit	1	W	С	-	I	1.001	
215	INPUT IZ	Block = 0	1 bit	-	W	С	-	-	1.003	
221- 225	Input I3 (details: see input I2)									

#### 7.2.13 External inputs I2, I3: Blinds function

#### 7.2.14 Flags

Flag	Name	Meaning					
R Read Object answers read telegra							
W	Write Object can receive						
С	C Communication Bus communication is permitte						
Т	T Send Object can send						
U	Update	Object is updated					

 $<sup>^3</sup>$  Upon double-click with object type = Height % + slat %  $^4$  Upon double-click with object type = Height % + slat %



## 7.3 Description of communication objects

## 7.3.1 Lighting control

Obj.	Name	Function	Description
1	C1 Light output	Switching	In the <i>Light function</i> = <i>Switching light</i> , the light switch output C1 sends an ON telegram upon detecting a movement and insufficient brightness, and an OFF telegram after the time delay has elapsed or when the brightness is sufficient: 0 = absence or sufficient brightness (OFF) 1 = presence and insufficient brightness (ON)
1 3 5 7	<i>C1 Light output C1 Light output C1 Light output C1 Light input</i>	Switching Brighter/darker Send value Feedback value	Objects 3,5,7 are available if <i>Light function</i> = <i>Constant lighting control</i> or <i>Switching</i> <i>light</i> with <i>Lighting dimmable in switching</i> <i>mode</i> = <i>yes</i> is set.
			In the <i>Light function = Constant lighting</i> <i>control</i> , objects 1,3,5,7 are used for constant lighting control, unless an additional external push-button is used. Configuration for use with an external push button, see chapter <b>Application examples</b> . All four objects must be linked for a functioning constant lighting control. A different response is produced depending on configuration. The constant lighting control can be started with a value or an ON telegram. For further details, see chapter <b>Channel C1</b> <b>Light Constant lighting control - Detail settings</b> .
			In the Light function = Constant lighting control or Constant lighting control without influence of presence, the constant lighting control can also be used without presence. The use independently of presence can be activated and deactivated via object 39. The response under manual control can be selected as either "school" or "office". Please observe the information on push button operation.
2	C1 Light input	<i>Switching external push button</i>	1-bit input object for manual override of the detector using an external push button. Function: Switching
			Behaviour of lighting see chapter <b>Operation</b> .
4	C1 Light input	External button brighter/darker	Object is available if <i>Light function =</i> <i>Constant lighting control</i> or <i>Switching light</i> with <i>Lighting dimmable in switching mode</i> <i>= yes</i> is set.



Obj.	Name	Function	Description
			4-bit input object for manual override of the detector using an external push button. Function: Dimming
6	C1 Liaht input	Send value	Object is available if <i>Light function =</i>
		external push button	<i>Constant lighting control</i> or <i>Switching light</i> with <i>Lighting dimmable in switching mode</i> <i>= yes</i> is set.
			1-byte input object for manual override of the detector using an external push button.
			Behaviour of lighting see chapter <b>Operation</b> .
11	C1 brightness switching value C1 brightness setpoint	Receive value	Object is available if <i>Set brightness</i> <i>switching/setpoint value via bus = yes</i> is set.
			This allows the brightness switching/setpoint value to be changed during operation. If the received value is outside the value range (53000 lux) or if the brightness switching/setpoint value does not match the currently set room correction factor (see setting limit), the received brightness value will be automatically set to the corresponding limit value.
12	<i>C1 brightness switching value C1 brightness setpoint value</i>	Send value	The object returns the stored value of the brightness switching/setpoint value. When changing the brightness switching/setpoint value via remote control, the new value will be sent. In switching mode, value "0" means "Measurement OFF".
13	<i>C1 brightness switching value night C1 brightness setpoint value night</i>	Receive value	Object is available if <i>Set brightness switching/setpoint value night via bus = yes</i> is set.
			This allows the brightness switching/setpoint value for the night to be reset during operation. If the received value is outside the value range (53000 lux) or if the brightness switching/setpoint value does not match the currently set room correction factor (see setting limit), the received brightness value will be automatically set to the corresponding limit value.
14	L I brightness switching value night	Send value	I ne object returns the stored value of the brightness switching/setpoint value night.



Obj.	Name	Function	Description
	C1 brightness setpoint		When changing the brightness
	value night		switching/setpoint value via remote
			lo switching mode value "Ω" means
			"Measurement OFF".
15	C1 brightness switching	\$01=call up,	Object is available if <i>Set brightness</i>
	value (teach-in)	\$81=save	<i>switching/setpoint value via bus = yes</i> is
	LI Drigntness setpoint		set.
			With a value telegram \$81 (129), the
			detector adopts the currently measured
			brightness value [lux] as the new
			night hrightness switching/setpoint value of
			(depending on which is currently active).
			If the night brightness switching/setpoint
			value has been switched to, the currently
			into the night brightness
			switching/setpoint value by the value
			telegram \$81 (129).
			Ubject 12 sends the saved value of the
			switching/setpoint value, or object 14
			sends the night brightness
			switching/setpoint value (depending on
			Which is currently active). With a value telegram \$01 (1), object 15
			sends the current brightness
			switching/setpoint value, or object 14 if the
			night brightness switching/setpoint value
			IS active. The transfer is made to the currently active
			brightness switching/setpoint value.
18	Measurement value on	Receive value	Object is available if <i>Set brightness</i>
	lux meter		<i>measurement value via bus = yes</i> is set.
			The measured lux meter value is needed to
			calculate the room correction factor. The lux
			meter is placed below, in front of the sensor
			and the measured lux value is sent via
			"theSenda B" (with "theSenda Plug" app).
			The room correction factor is calculated
			automatically immediately after entry.
19	Room correction factor	Call un value	Object 19 sends the stored value.
			<i>measurement value via bus = yes</i> is set.
			The room correction factor is calculated
			meter value, or it is entered via ETS.
			Permissible values lie between 0.05 and
			2.0. Calculated or entered values outside
		1	I the permitted range will automatically be



Obj.	Name	Function	Description
			set to the appropriate limit value. For monitoring purposes the room correction factor can be queried via the object
20	Brinhtness value	Send lux value	Object is available if <i>Send brinktness</i>
			<i>measurement value on bus = yes</i> is set.
			The detector sends the currently measured brightness value as a 2-byte telegram via the object. The frequency of telegrams depends on the cycle time and the minimum change in brightness.
			The 2-byte telegrams to the object are used to visualise a brightness value. Using the detector's internal constant lighting control function is recommended for a
			control. The brightness value will be adapted to the
			conditions inside the room with the room correction factor. See parameter <i>Room</i>
21	Extagoal brightages	Pacaina lux valua	Correction factor brightness.
21	value		<i>measurement source</i> = <i>external</i> is set.
			As an alternative to light measurement, an
			external brightness value can be used via
22	Measurement value	Receive value	Object is available if <i>Set temperature</i>
	temperature		<i>measurement value via bus = yes</i> is set.
			The measured ambient temperature is
			required to calculate the temperature
			offset. The measured temperature value is
			"theSenda B"-(with "theSenda Plug" app).
			The temperature offset is calculated
			automatically immediately after entry. Object 23 sends the stored value. If the
			value of the calculated temperature offset
			is outside -5 K to +5 K, no new temperature offset will be set.
			It is recommended to calibrate the
			temperature measurement due to self- heating at the earliest 30 min after start-
23	Temnerature offset	Call un value	up. Object is available if <i>Set temperature</i>
			<i>measurement value via bus = yes</i> is set.
			The temperature offset is calculated
			automatically following the entry of the
			Permissible values lie between -5.0 and 5.0
			Calculated or entered values outside the


Obj.	Name	Function	Description
			permitted range will be rejected and not
			adopted.
			For monitoring purposes the temperature
2/	Tompocature value	Send	Object is available if Send temperature
27		temnerature	value on hus = ves is set
		value	
			The detector sends the currently measured temperature value as a 2-byte telegram via
			the object.
			The frequency of telegrams depends on the
			cycle time and the minimum change in temperature
			The temperature value is adapted to the
			conditions in the room using the
			temperature offset. See parameter
			Temperature offset.
28	C2 Light output	Switching	If two switch outputs are used, the object is
			Used for brightness-dependent switching or
			Function see object 1: <i>C1 Light output</i>
28	C2 Light output	Switching	Objects 30,32,34 are available if <i>Light</i>
30	C2 Light output	Brighter/darker	<i>function = Constant lighting control,</i> or <i>Switching lightwith Lighting dimmable in</i>
32	C2 Light output	Send value	switching mode = yes is set.
34	C2 Light input	Feedback value	
			If two channels are used, all 4 objects are
			of Channel C2 Linht
			Function, see objects 1,3,5,7: <i>Channel C1</i>
			Light.
29	C2 Light input	Switching	1-bit input object for manual override of
		external push	the detector using an external push button.
			Rehaviour of lighting with 2 channels, see
			chapter <b>Operation</b> .
31	C2 Light input	External button	4-bit input object for manual override of
		brighter/darker	the detector using an external push button.
			Function: Dimming
			Behaviour of lighting with 2 channels, see
33	C2 Light input	Send value	Object is available if <i>Light function</i> –
		external push	Constant lighting control or Switching light
		button	with <i>Lighting dimmable in switching mode</i>
			<i>= yes</i> is set.
			1-byte input object for manual override of
			the detector using an external push button.
			Behaviour of lighting with 2 channels, see
			chapter <b>Operation</b> .



Obj.	Name	Function	Description
38	C1, C2 light	Day-night	Object available if for a night parameter =
		changeover	yes is set, e.g. Other detection sensitivity at
			night = yes
			For channels C1_C2 Light_different values
			can be stored for the night depending on
			the parameter.
			ON telegram to the object activates the day
			mode (standard).
			OFF telegram to the object activates the
20	C1 Light	Selection	Night mode.
	C1 C2 light	constant	<i>Constant lighting control</i> is set.
		lighting control	
			Response when using <i>Constant lighting</i>
			control.
			ON telegram to the object starts the control
			Without influence of presence. The
			automatically switched to <i>Fully automatic</i>
			device.
			OFF telegram to object deactivates the
			presence-independent control and the
			presence-dependent constant lighting
			control is resumed. The set <i>Configuration</i>
			<i>type</i> will be restored.
39	C1 Light constant	Activate/deactiv	Object is available if <i>Light function =</i>
	lighting control	ate	Constant lighting control without
	C1, C2 light constant		<i>influence of presence</i> is set.
			Response when using Constant lighting
			control without influence of presence:
			ON telegram to the object starts the control.
			OFF telegram to object deactivates the
			control and switches the lighting off.
			The 2 lighting channels C1/C2 can be
4.0	C1 Light	Standby function	The standby function is available if <i>Light</i>
40	C1. C2 liaht		<i>standby time = active</i> is set.
	- · / ··g···		
			The standby function can be deactivated
			and reactivated via the object. The standby
1.1	C1 liabtica time delevi	Rocaina valua	runction is activated by default.
41	CT HYDRITY LITTE DEIDY	RELEIVE VOIUE	
	delay		<i>yo oos - yos is see.</i>
			The time delay can be set jointly for lighting
			channels C1, C2 in a range from 30 s to
			60 min via the object. The value must be
			sent in seconds.
			lighting time delay is adjusted adaptively
42	C1 lighting time delay	Send value	Object is available if <i>Set linhting time delay</i>
	C1, C2 lighting time		via bus = yes is set.



Obj.	Name	Function	Description
	delay		
			The object returns the stored value of the
			When changing the lighting time delay via
			remote control, the new value is sent.
43	C1 lighting time delay	Receive value	Object is available if <i>Set lighting time delay</i>
	night		<i>night via bus = yes</i> is set.
	LT, LZ lighting time delay ninht		The time delay can be set jointly for lighting
			channels C1, C2 for the night in a range
			from 30 s to 60 min via the object. The
			value must be sent in seconds.
			lighting time delay is adjusted adaptively
44	C1 lighting time delay	Send value	Object is available if <i>Set lighting time delay</i>
	night		<i>night via bus = yes</i> is set.
	C1, C2 lighting time		
	delay night		lighting time delay night
			When changing the lighting time delay
			night via remote control, the new value is
	<u> </u>		sent.
45	CT LIGht	BIOCK/UNDIOCK	UDJECT IS AVAILABLE IF ACTIVATE DIOCK FUNCTION
			- 900 10 500
			The channels light are blocked jointly with
			an ON or OFF telegram. At the start of the
			ontionally send one of the following
			previous telegrams: ON, OFF, no telegram,
			value X%. During the blocking, the channels
			do not send any telegrams, neither on the
			of brightness.
			The channels light are unblocked via an ON
			or OFF telegram, complementing the
			telegram when blocking. When unblocking,
			status and thereby continues the
			brightness-dependent switching or
	Cashad and t	On an fur	constant lighting control.
40	Lentral command	Keceive	An UN telegram switches the channels C1, C2 light on The response of the detector is
			as if the user switches it on via a push
			button. The response depends on the
			selected control type. See chapter
			An OFF telegram switches the channels C1
			C2 light according to the following
			conditions:
			- no movement within the past 5 seconds:
			The running time delays for channels C1_C2
			light and standby time are set to 0.
			Afterwards, the detector is in normal



Obj.	Name	Function	Description
			operation. If <i>Duration of light standby time</i> is set to <i>always ON</i> , channels C1, C2 are not switched off, but instead go into to the set standby operation.
			Motion when receiving the OFF telegram: The light remains switched on. Fully automatic device: If further movement is detected subsequently, the light is switched on again if there is insufficient brightness.
			Detector is blocked: The central command is not executed
47	External scene	Receive	Object is available if <i>Activate channel C1</i> <i>light</i> = yes is set.
			Scene numbers sent directly to the actuator can be directed to the detector to block/unblock the lighting channels of the detector, to deactivate/activate control, or to use internal scene 1/2.
48	Red LED	Receive	Object is available if <i>Control red LED via</i> <i>object = yes</i> is set.
			When an ON telegram is received on the object, the red LED starts flashing (2 s on / 2 s off). The red LED is switched off by means of an OFF telegram, or automatically when the detector is restarted.
49	Orientation light	Receive	Object is available if <i>Control orientation light via object = yes</i> is set.
			When an ON telegram is received on the object, the white LED is switched on. The white LED is switched off by means of an OFF telegram, or automatically when changing over from night to day, or when the detector is restarted.



### 7.3.2 HVAC channels C4, C5

Obj.	Name	Function	Description
50	C4.1 HVAC	Switching	Object is available if Activate channel C4
51	C4.2 HVAC	Priority	<i>HVAC</i> or <i>Activate channel C5 HVAC</i> = <i>yes</i> is
53	<i>C5.1 HVAC</i>	Send value	set.
54	<i>C5.2 HVAC</i>	Send percentage	
		value	Channel C4, C5 HVAC sends the configured
		Send HVAC	telegram (independently of brightness
		operating mode	after a potential delay due to the
		Send scene	configured switch-on delay) or no
			telegram if there is a presence. After the
			time delay has elapsed, either the
			configured telegram or no telegram at all
			will be sent.
			The telegram type is freely selectable.
52	L4 HVAL	Block/unblock	Ubject is available if Activate block
55	L5 HVAL		<i>function</i> = <i>yes</i> is set.
			The UVAC shapped is disabled via as ON as
			The HVAC channel is disabled via all ON OF
			blocking can be defined as follows:
			- no response
			- as at the end of the time delay
			as at the end of the time delay
			The HVAC channel is unblocked via an ON
			or OFF telegram, complementing the
			telegram when blocking. After unblocking.
			the current state is sent.

### 7.3.3 Room monitoring C6

Obj.	Name	Function	Description
56	C6 room monitoring	Message	Objects 59 - 59 are available if Activate
			<i>channel C6 room monitoring = yes</i> is set.
			Depending on the configuration, the detector sends the motion information via object with increased security against faulty activation. <i>Type of report = Cyclical with</i> <i>acknowledgement:</i> The monitoring channel sends an ON telegram on detection of movement. The detector sends again an ON telegram if the telegram is not confirmed within the configured waiting time on object 57. This process is repeated until a confirmation is received. The dead time after acknowledgement can be set. <i>Type of report = Switching On/Off:</i>



Obj.	Name	Function	Description	
			On detection of a movement, the monitoring channel sends an ON telegram, and an OFF telegram after expiration of the monitoring time delay.	
57	C6 room monitoring	Confirmation	If the monitoring channel is configured to <i>Cyclical with acknowledgement</i> , the detector expects a 0 or 1 telegram to the object. It repeats the ON telegram at cyclical intervals, as long as there is no confirmation. The dead time after acknowledgement can be set.	
58	C6 room monitoring	Sabotage cyclically	<ul> <li>In order to identify the dismounting of the detector, object 58 continuously sends</li> <li>OFF telegrams, as long as the detector is operating.</li> </ul>	
59	C6 room monitoring	Release	During operation, channel C6 room monitoring can be enabled with an ON telegram to object 59, or disabled with an OFF telegram. During the blocking, no telegrams are transmitted via object 56.	



7.3.4	Characteristics of the general objects
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Obj.	Name	Function	Description
60	Parallel switching output	Trigger output	Object is available if <i>Master operating mode</i> = <i>Parallel switching</i> or <i>Operating mode</i> = <i>Slave</i> is set. The trigger output is required for parallel switching of several detectors. The object sends a trigger to a trigger input or trigger input/output as motion information. There are two possible types of switching: Master/Slave parallel switching: A Master receives the motion information from several Slaves in the room and switches or controls the lighting as required on the basis of the brightness measured by the Master. The advantage is uniform switching with a defined brightness value. For applications in corridors for example, the Master / Master parallel switching: Several Masters exchange motion information with each other. The advantage is a zone with uniform presence detection but several light measurements. The interval (cycle time) between two telegrams can be set up to 5 minutes. Important: Please keep in mind to always select the interval between two trigger telegrams to be shorter than the time delay. Please observe the information in chapter <b>Parallel switching</b> .
61	Parallel switching input Aura effect output	Trigger input Send motion	Object is available if <i>Master operating mode</i> = <i>Parallel switching</i> is set. The trigger input is required for parallel switching of several detectors. The object receives the motion information of a trigger output or trigger input/output. Description of types of switching, see object 60 <i>Trigger output.</i> Object is available if <i>Master operating mode</i> =
		status	Aura effect is set. With presence and lighting switched on, the detector sends a time value telegram with the set Cycle time aura effect via the object to the adjacent detection zones. See also Application examples of aura effect.
63	Aura effect input	Receive motion status	Object is available if <i>Master operating mode = Aura effect</i> is set. If in this detection zone, a time value



UUJ.	Name	Function	Description
			telegram is received and at the same time no one is present in this detection zone, then the aura effect is started, i.e. the lighting will be switched on to the set <i>Aura dimming value</i> . If
			the lighting is switched off, the aura effect is only started if there is insufficient brightness.
			If standby operation is active, it will be overridden by the aura effect.
			After the aura effect has ended, standby operation will be resumed.
			See also Application examples of aura effect.
64	Aura effect	Enable	Ubject is available if <i>Master operating mode =</i> <i>Aura effect</i> is set.
			The aura effect function can be deactivated or activated via a 0 or 1 telegram. If the function is deactivated, no telegrams from object 63 are considered.
65	Scene input	Scene 1/2	Object is available if <i>Scene controls = use</i>
			<i>internal scene</i> is set.
			An OFF telegram to the object calls up scene 1, an ON telegram to the object calls up scene 2.
66	Scene output	Scene number	Object is available if <i>Scene controls = Send</i>
			scene number on bus is set.
			When the scene buttons   ☐ on the user remote control "theSenda S" are pressed, the scene output object sends the set scene
			number.
67	<i>IR switching external</i>	Switching	If during configuration an IR group address is allocated to parameter <i>External</i>
68	<i>IR switching external</i> <i>1</i>	Brighter/darker	<i>switching/dimming 1</i> , objects 67 and 68 assume the following function, as soon as a command with the selected IR group address is received:
			Briefly pressing the push buttons $\sqrt[3]{} / $ causes an ON telegram (1) or an OFF telegram (0) to be sent via the object Switching.
			Holding down the button $\circ$ on the remote control causes "dim brighter" to be sent via
			the object, and "stop" when released. Holding down the button $\Im$ on the remote control causes "dim darker" to be sent via the object,
			and "stop" when released.
69	<i>IR switching external</i> <i>2</i>	Switching	If an IR group address is allocated to the parameter <i>External switching/dimming 2</i> ,
70	<i>IR switching external</i> 2	Brighter/darker	objects 69 and 70 assume the same function as described for objects 67 and 68, as soon as a command with the selected IR group
	1	1	Laddress is received



Obj.	Name	Function	Description	
72	IR external blinds 1	Open/close slats	allocated to the parameter <i>External blinds</i> a objects 71 and 72 assume the following function, as soon as a command with the selected IR group address is received: Briefly pressing the buttons $\forall / \forall$ causes a or 1 telegram to be sent via the object "Open/close slats". Holding down the butto $\forall / \forall$ causes a 0 or 1 telegram to be sent via the object "Blinds up/down".	
73	IR external blinds 2	Blinds Up/Down	If during configuration an IR group address is allocated to the parameter <i>External blinds 2</i> , objects 73 and 74 assume the same function	
74	IR external blinds 2	Open/close slats	as described for objects 71 and 72, as soon as a command with the selected IR group address is received.	
75	Test mode presence	On/Off	An ON telegram activates test mode presence for the duration of the configured time. An OFF telegram ends test mode presence early and the detector restarts. For the description of test mode presence, see <b>Test mode presence</b>	
76	Test mode light	On/Off	An ON telegram activates test mode light for the duration of the configured time. An OFF telegram ends test mode light early and the detector restarts. For the description of test mode light, see	
77	Software version	Send	The software version of the detector can be queried via this object. The format of the queried software version corresponds to data type 217.001.	
			Info         Version           08 00         1.00           08 40         1.01           08 80         1.02           08 C0         1.03           09 00         1.04           09 40         1.05           09 80         1.06           09 C0         1.07           0A 00         1.08           0A 40         1.09           0A 80         1.10	



#### 7.3.5 Logic channels C18-C23

**Object 80: C18 Logic module** – **logic input 1 in AND, OR, XOR gate** First input object of the logic module.

**Object 81: C18 Logic module** – **logic input 2 in AND, OR, XOR gate** Second input object of logic module.

Object 82 C18 Logic module – logic input 3 in AND, OR gate Third input object of logic module.

Object 83 C18 Logic module – logic input 4 in AND, OR gate Fourth input object of logic module.

#### Object 84 C18 Logic module – block/unblock

Block object of the channel. Only visible if the block function is activated. The acting direction (block with 0 or 1) can be set via parameter.

# Object 85: C18.1 Logic module – switching, priority, value, percentage value, HVAC operating mode, scenes

First output object of the logic module. The function of the object depends on the selected telegram type (see **Objects** parameter page, *Telegram type parameter*).

Telegram type	Format	Sent telegrams				
Switching	DPT 1.001 (On/Off)	On/Off				
Priority	DPT 2.001	2 bit telegram:				
	(priority	Function	Value			
	control)	no priority (no control)	0			
		Priority OFF (control: disable, off)	2			
		Priority ON (control: enable, on) 3				
Value	DPT 5.010	Value 0-255				
Percentage	DPT 5.001	Value as a percentage 0-100%				
value						
HVAC operating	DPT 20.102	1 = Comfort				
mode		2 = Standby				
		3 = Temperature reduction at night				
		4 = Frost protection				
Scenes	DPT 17.001	Scene numbers 1-64				



#### Object 86: C18.2 Logic module – switching, priority, value, HVAC operating mode, scenes

Second output object of the logic module. The function of the object depends on the selected telegram type (see **Objects** parameter page, *Telegram type parameter*).

Telegram type	Format	Sent telegrams			
Switching	DPT 1.001 (On/Off)	On/Off			
Priority	DPT 2.001	2 bit telegram:			
	(priority	Function	Value		
	control)	no priority (no control)	0		
		Priority OFF (control: disable, off)	2		
		Priority ON (control: enable, on)	3		
Value	DPT 5.010	Value 0-255			
Percentage	DPT 5.001	Value as a percentage 0-100%			
value					
HVAC operating	DPT 20.102	1 = Comfort			
mode		2 = Standby			
		3 = Temperature reduction at night			
		4 = Frost protection			
Scenes	DPT 17.001	Scene numbers 1-64			

Object 90-136

Objects for C19-C23, function: see C18.



#### 7.3.6 Integrated push button I1

#### 7.3.6.1 Push button function

**Object 201: Integrated push button I1.1 – switching, priority, send value, send percentage value** First output object of the integrated push button (first telegram). 4 telegram formats can be set: Switching On/Off, priority, send value, send percentage value.

Object 202: Integrated push button 11.2 – switching, priority, send value, send percentage value Second output object of the integrated push button (second telegram). 4 telegram formats can be set: Switching On/Off, priority, send value, send percentage value.

#### Object 205: Integrated push button I1 - block = 1 or block = 0

This object is used to block the control via the integrated push button. The acting direction of the block object and behaviour when the block is set or cancelled can be configured.

#### 7.3.6.2 Dimming function

**Object 201: Integrated push button I1 – switching** Switches the dimmer on and off.

**Object 202: Integrated push button I1 – brighter/darker, brighter, darker** 4-bit dimming commands.

Object 203: Integrated push button 11.1 – switching, priority, send value, send percentage value Output object for the additional function with double-click. 4 telegram formats can be set: Switching On/Off, priority, send value, send percentage value.

Object 205: Integrated push button I1 – block = 1 or block = 0 This object is used to block the control via the integrated push button. The acting direction of the block object and behaviour when the block is set or cancelled can be configured.

#### 7.3.6.3 Blinds function

**Object 201: Integrated push button I1 – step/stop** Sends step/stop commands to the blind actuator.

**Object 202: Integrated push button I1 – UP/DOWN, UP, DOWN** Sends operating commands to the blind actuator.

Object 203: Integrated push button I1.1 - switching, priority, send value, send percentage



#### value, height %

Output object for the additional function with double-click. 5 telegram formats can be set: Switching On/Off, priority, send value, send percentage value, height %.

#### Object 204: Integrated push button I1.2 - slat %

Slat telegram for positioning the blinds upon double-click (together with object height %, with *object type = height + slat*).

Object 205: Integrated push button I1 - block = 1 or block = 0

This object is used to block the control via the integrated push button. The acting direction of the block object and behaviour when the block is set or cancelled can be configured.

#### 7.3.6.4 Function Control lighting channel C1, C2 directly

If the function Control lighting channel (C1,C2) directly is selected, only the block object is used.

#### Object 205: Integrated push button I1 - block = 1 or block = 0

This object is used to block the control via the integrated push button. The acting direction of the block object and behaviour when the block is set or cancelled can be configured.

#### 7.3.7 External inputs I2, I3:

#### 7.3.7.1 Switch function

Object 211: Input I2.1 – switching, priority, send value, send percentage value First output object of the external input (first telegram). 4 telegram formats can be set: Switching On/Off, priority, send value, send percentage value.

Object 212: Input I2.2 – switching, priority, send value, send percentage value Second output object of the external input (second telegram). 4 telegram formats can be set: Switching On/Off, priority, send value, send percentage value.

#### Object 215: Input I2 - block = 1 or block = 0

This object is used to block the control via the external input. The acting direction of the block object and behaviour when the block is set or cancelled can be configured.

Objects 221-225 Objects for input I3 (details: see input I2).



#### 7.3.7.2 Push button function

Object 211: Input I2.1 – switching, priority, send value, send percentage value First output object of the external input (first telegram). 4 telegram formats can be set: Switching On/Off, priority, send value, send percentage value.

Object 212: Input 12.2 – switching, priority, send value, send percentage value Second output object of the external input (second telegram). 4 telegram formats can be set: Switching On/Off, priority, send value, send percentage value

#### Object 215: Input I2 - block = 1 or block = 0

This object is used to block the control via the external input. The acting direction of the block object and behaviour when the block is set or cancelled can be configured.

#### **Objects 221-225**

Objects for input I3 (details: see input I2).

#### 7.3.7.3 Dimming function

**Object 211: Input I2.1** – **switching** Switches the dimmer on and off.

**Object 212: Input I2.1** – brighter/darker, brighter, darker 4-bit dimming commands.

Object 213: Input I2.1 – switching, priority, send value, send percentage value Output object for the additional function with double-click. 4 telegram formats can be set: Switching On/Off, priority, send value, send percentage value.

#### Object 215: Input I2 - block = 1 or block = 0

This object is used to block the control via the external input. The acting direction of the block object and behaviour when the block is set or cancelled can be configured.

Objects 221-225 Objects for input I3 (details: see input I2).



#### 7.3.7.4 Blinds function

**Object 211: Input I2 – step/stop** Sends step/stop commands to the blind actuator.

**Object 212: Input I2 – UP/DOWN, UP, DOWN** Sends operating commands to the blind actuator.

#### Object 213: Input I2.1 – switching, priority, send value, send percentage value, height %

Output object for the additional function with double-click. 5 telegram formats can be set: Switching On/Off, priority, send value, send percentage value, height %.

#### Object 214: Input I2.2 – slat %

Slat telegram for positioning the blinds upon double-click (together with object height %, with *object type* = *height* + *slat*).

#### Object 215: Input I2 - block = 1 or block = 0

This object is used to block the control via the external input. The acting direction of the block object and behaviour when the block is set or cancelled can be configured.

#### Objects 221-225

Objects for input I3 (details: see input I2).



# 7.4 Parameter pages overview

### 7.4.1 General

Parameter page	Description
General	Basic configuration of the device: Channels used and operating mode.
Setting	Detection sensitivity, brightness/temperature measurement, acoustic sensor and LEDs.
Lighting channels	
Channel C1 Light	Basic settings for the lighting channel, e.g. function, configuration type, brightness setpoint value, time delay, etc.
Detail settings	Detailed settings for the lighting channel, e.g. dimming function, override, standby, etc.
Block function	Blocking behaviour.
Channel C2 Light	Brightness difference compared to C1.
HVAC channels	
Channel C4 HVAC	Switch-on delay, time delay
Objects	Telegram type, behaviour when presence is detected, etc.
Block function	Blocking behaviour.
Channel C5 HVAC	See channel C4.
Room monitoring	
Room monitoring	Type of report, acknowledgement, etc.
channel C6	
Remote control	
Remote control	Definition of IR-group addresses.
Scenes	
Scenes	Scene controls.
Scene functions	Behaviour when receiving a scene number.
Logic channels	
Logic channel C18C23	Number of inputs, links etc.
Objects	Telegram type, switch and blocking behaviour, etc.
Integrated push button I	7
Configuration options	Function of the input (incl. control lighting channel directly), debounce time, number of telegrams, block function, etc.
Push button object 1	Object type, transmission behaviour, etc. can be set for each object
Push button object 2	individually.
Input I2, I3	
Configuration options	Function of the input, debounce time, number of telegrams, block function, etc.
Push button object 1	Object type, transmission behaviour, etc. can be set for each object
Push button object 2	individually.



# 7.5 General parameters

### 7.5.1 General

Parameter name	Values	Meaning
Operating mode	Master	A Master is capable of lighting control (switching or constant lighting control) and forwarding the presence information.
	Slave	Slaves are used to extend the detection area. They supply presence information to the Master. The <i>Cycle time parallel switching</i> parameter is displayed. Please observe the information on parallel switching in chapter <b>Parallel switching</b>
Master operating mode	Individual	Detector works as an independent device.
, 5	switching	'
	Parallel switching	Depending on requirements, additional detectors are connected to a "Master" as "Slaves" to extend the detection area, or several "Masters" are connected with each other. The <i>Cycle time parallel switching</i> parameter is displayed. Please observe the information on parallel switching in chapter <b>Parallel switching</b> .
	Aura effect	The light follows users in the area where they currently are. The lighting in the adjacent detection areas is switched or dimmed to the <i>Aura dimming value</i> . The <i>Cycle time aura effect</i> parameter is displayed. The aura effect function is not possible in combination with constant lighting control without influence of presence. Please observe the information on the aura effect in the chapter <b>Aura</b> <b>effect</b> .
Cycle time	5 s <b>30 s</b> 5 min	The interval between two telegrams can be
Parallel switching		set at up to 5 minutes to reduce the number of telegrams. Please keep in mind to always select the interval between two trigger telegrams to be shorter than the time delay.
Activate channel C1 light	no	The detector is not used for lighting control.
	yes	The <b>Channel C1 Light</b> for lighting control is displayed.
Activate channel C2 light	no	No second lighting channel is used.
	yes	C2 uses the same settings as C1, but can work with a setpoint different from C1. Prerequisite: C1 must be activated.



Parameter name	Values	Meaning
Activate channel C4 HVAC	по	The detector is not used for controlling
		HVAC applications.
	1/05	The <i>Channel C/, HV/IC</i> narameter name is
	yes	displayed. Channel C4 HVAC switches other
		devices, such as HVAC systems depending
		on the presence of persons, or it delivers
		the presence information to higher-level
Activate chapped (5 HI/AC	00	Systems (Independently of brightness).
		HVAC applications.
	yes	The Channel C5 HVAC parameter page is
		displayed. Channel C5 HVAC switches other
		devices, such as HVAL systems depending
		the presence information to higher-level
		systems (independently of brightness).
Activate channel C6 room	по	The detector is not used for room
monitoring		monitoring.
	1/05	The detector provides a proceeding size of for
	yes	room monitoring with increased security
		against false triggering.
Number – logic channels	<b>0</b> 6	Number of required logic channels. When
		used, the <i>Logic channel Cxx</i> parameter
		page is displayed.
		Logic channels allow up to four individual
		1-bit telegrams to be linked and thus
		reduced to a single piece of information.
Activata interacted puch		Possible links are AND, UR or XUR
button		
	yes	The channel <b>Integrated push button I1</b> is
		displayed.
		When the push button is pressed, this
		channel can either send bus telegrams
		for direct control of the lighting channels
Activate binary inputs	по	The binary inputs are not used.
	yes	The Inputs I2, I3 are displayed.
		opon application of voltage the input is
		sent.
		Conventional push buttons, switches or any
		kind of sensor (thermostat, time switch,
Activation of best mode	via abiast as	etc.) can be connected.
	via object of	An activated test mode will automatically be ended after the set time has elansed
	max. 30 min	and the detector will be restarted.
		Description, see chapter <b>Test modes</b> .



Parameter name	Values	Meaning
	2 min60 min	

### 7.5.2 Settings

Parameter name	Values	Meaning
General		•
Overwrite parameter setting on download		The setting affects the following parameters:-Brightness switching/setpoint value-Brightness switching/setpoint value night-Lighting time delay-Lighting time delay night-Room correction factor 
	Do not overwrite parameter	The relevant parameter values (see above) in the detector remain unchanged. Settings modified with app remote control "theSenda B" ("theSenda Plug" app), installation remote control "theSenda P", or via object are retained. Note: With the first download (factory setting) or after discharging the detector, valid parameter values have to be downloaded first, otherwise error flashing will be displayed.
	Overwrite parameter	The relevant parameter values (see above) in the detector will be overwritten. Settings modified with app remote control "theSenda B" ("theSenda Plug" app), installation remote control "theSenda P", or via object will be lost. The parameters set in the ETS are accepted.
Activate potentiometer operation	ΠΟ	Only the KNX programming mode can be activated / deactivated by means of a potentiometer.
	yes	The potentiometers on the detector can be used to change the brightness switching/setpoint value and the lighting time delay, and also to activate/deactivate the KNX programming mode.



Parameter name	Values	Meaning
		Important: The changeable parameters do not concern the night parameters.
Detection		
Detection sensitivity	Increment 1() Increment 2 (-) Increment 3 (standard)	The detector has 3 sensitivity increments. By selecting the presence test mode, the set sensitivity increment is not changed.
<i>Other detection sensitivity at night</i>	ΠΟ	There is no other detection sensitivity for the night.
	yes	To prevent potential false detections, the detection sensitivity for the night can be reduced in increments.
Detection sensitivity night	Increment 1() Increment 2 (-) Increment 3 (standard)	Separate sensitivity for the night.
Brightness measurement		
Brightness measurement source	internal	The detector measures the artificial light and daylight by means of an internal light measurement.
	external	The brightness value must be supplied via object 21 <i>External brightness value –</i> <i>Receive lux value</i> . The optimum cycle time is about 1 s, or at changes greater than 5%.
Light measurement selection	Use light measurement centre	This setting cannot be changed.
Room correction factor brightness	0.05 <b>0.3</b> 2.0	The room correction factor is a measurement for the difference of the brightness measurement at the wall and on the floor. The brightness measurement value at the wall is influenced by the installation location, incidence of light, position of the sun, weather conditions, the reflection properties of the room, and the furniture. The room correction factor allows the brightness measurement taken by the detector to be adapted to the conditions in the room.
	0.0 <i>3<b>0.3</b>2.0</i>	For automatic calculation of the room correction factor see chapter <b>Calibration</b> of brightness measurement.
<i>Set brightness measurement value via bus</i>	no	Object 18 <i>Measurement value on lux</i> <i>meter – receive value</i> and object 19 <i>Room correction factor – call up value</i> are hidden.



Parameter name	Values	Meaning
	yes	Object 18 <i>Measurement value on lux</i> <i>meter – receive value</i> and object 19 <i>Room correction factor – call up value</i> are displayed.
Send brightness value on bus	ΠΟ	The measured brightness value is not transmitted.
	yes	The measured brightness value is sent as a 2-byte telegram via object 20 <i>Brightness value – Send lux value.</i> The measured brightness value can be adjusted to the conditions in the room with the <i>Room correction factor</i> parameter. The parameters <i>Send</i> <i>brightness value cyclically</i> and <i>Send</i> <i>brightness value upon change</i> are displayed.
		Note: If the brightness value is used for external control, please note that <i>Send</i> <i>brightness value cyclically</i> is set to 5 s and <i>Send brightness value upon change</i> is set to > 5%.
Temperature measurement		
Send temperature value on bus	no	The measured temperature value is not transmitted.
	yes	The measured brightness value is sent via object 24 <i>Temperature value – send</i> <i>temperature value</i> . The <i>Temperature offset</i> parameter can be used to correct the measured temperature value. Any configured temperature offset is taken into account when the temperature value is output.
Temperature offset	5 K <b>0 K</b> 5 K	Correction value for temperature measurement if sent temperature deviates from the actual ambient temperature.
<i>Set temperature measurement value via bus</i>	πο	Object 22 <i>Measurement value</i> <i>temperature – receive value</i> and object 23 <i>Temperature offset – call up value</i> are hidden.
-	yes	Object 22 <i>Measurement value</i> <i>temperature – receive value</i> and object 23 <i>Temperature offset – call up value</i> are displayed.
Send temperature value cyclically	<b>no</b> 1 min30 min	Temperature value is not sent cyclically.
		selected time.
Send temperature value upon	no	Iemperature value is not sent upon



Parameter name	Values	Meaning
change		change.
	0.2 0.5 1 1.5 2 2.5 3 3.5 4 4.5 5	Send if the value has changed by the selected value (in K) since the last transmission.
Acoustic sensor	5	<u> </u>
Acoustic sensor sensitivity	Off (default)	The acoustic sensor is switched off.
	Increment 1() Increment 2 (-) Increment 3	The acoustic sensor has 3 sensitivity increments. Selecting the presence test operating mode temporarily deactivates an activated acoustic sensor.
Acoustic sensor operating	Microphone active	The function is activated as soon as the
modes	after detected motion (default)	channel Light is switched on. Each time an acoustic signal is detected the time delay of channel Light is restarted. If the light goes out, the microphone is only activated briefly.
	Microphone always active	The microphone is always active, except in semi-automatic configuration type.
<i>Other acoustic sensor sensitivity at night</i>	ΠΟ	There is no other acoustic sensor sensitivity for the night.
	yes	To prevent potential false detections, the acoustic sensor sensitivity for the night can be reduced in increments.
Acoustic sensor sensitivity night	<i>Off (default) Increment 1() <b>Increment 2 (-)</b> Increment 3</i>	Separate sensitivity for the night.
LEDs	1	
Adjust red LEDs	ΠΟ	The integrated red LED has no additional function.
	yes	The two parameters <i>Motion indicated by</i> <i>the LED</i> and <i>Control red LED via object</i> are displayed.
Motion indicated by the LED	no	An optically detected movement is not indicated. Red LED is switched off.
	<i>yes</i>	As soon as motion is detected, the red LED illuminates. The LED remains on as long as motion is detected.
Lontrol red LED via object	_ no	Ubject 48 <i>Red LED – receive</i> is hidden.



Parameter name	Values	Meaning
	<i>yes</i>	Object 48 <i>Red LED – receive</i> is displayed. When an ON telegram is received on object 48, the red LED starts flashing (2 s on / 2 s off). The red LED is switched off by means of an OFF telegram, or automatically when the detector is restarted. The red LED always has a higher priority than the white orientation light. If both LEDs are activated, the white orientation light will be automatically switched off.
Use white LED (orientation	πο	The integrated white LED is deactivated.
	yes	The parameters <i>Orientation light dimming value, Switch on orientation light at, Duration of orientation light</i> and <i>Control orientation light via object</i> are displayed.
Orientation light dimming	1% <b>5%</b> 100%	Dimming value for switched-on
<i>Switch on orientation light at</i>	Motion	As soon as the set brightness switching/setpoint value is fallen below and motion is detected, the orientation light switches on. If no brightness switching/setpoint value is active, the orientation light switches on with every motion, independently of brightness. The parameter <i>Duration of orientation</i> <i>light</i> is displayed. Important: The parallel signal as well as the trigger at the acoustic sensor are not taken into account.
	Night	<ul> <li>When night mode is activated, the orientation light is switched on.</li> <li>Object 38 <i>C1, C2 Light – day-night changeover</i> is displayed.</li> <li>The red LED always has a higher priority than the white orientation light. If both LEDs are activated, the white orientation light will be automatically switched off.</li> <li>The orientation light is also always switched off during test mode presence and test mode light.</li> </ul>
Duration of orientation light	always ON	The orientation light is always switched on if the ambient brightness is below an active brightness switching/setpoint value.
	30 s60 min	Time delay after detected motion. Afterwards, the orientation light switches off again.



Parameter name	Values	Meaning
Control orientation light via object	ΠΟ	The integrated orientation light cannot be controlled via an object.
	yes	Object 49 <i>Orientation light – receive</i> is displayed. When an ON telegram is received on object 49, the white orientation light is switched on. The orientation light is switched off by means of an OFF telegram, automatically when the detector is restarted, or when night mode is exited.



# 7.6 Lighting channels

### 7.6.1 Channel C1 Light

Parameter name	Values	Meaning
Light function	Switching light	Channel C1 Light switches a lighting group depending on the presence of persons and the current brightness level.
	Constant lighting control	Channel C1 Light controls a lighting group depending on the presence of persons and the current brightness level.
	<i>Constant lighting control without influence of presence</i>	Channel C1 Light controls a lighting group depending on the current brightness level.
Configuration type	Semi-automatic device	In <i>Configuration type</i> = <i>semi-automatic device</i> , switching on must always be initiated manually via push button or remote control. Exception: If motion is detected within 10 seconds after the time delay has expired, the light comes on automatically. It is switched off automatically. The behaviour during activated light standby time can be changed, see parameter <i>Switching the light back on in semi-automatic mode during standby</i> .
	Fully automatic device	In <i>Configuration type fully automatic device</i> , the lighting channel automatically switches or controls the lighting depending on presence and surrounding brightness. It is switched off automatically. See also chapter <b>Operation</b> .
Change over to semi-		The parameter is visible if <i>Configuration</i>
automatic at night		type = fully automatic device.
	ΠΟ	No changeover to <i>Configuration type</i> semi- automatic device in night mode.
	yes	Object 38 <i>C1, C2 Light – day-night</i> <i>changeover</i> is displayed. Automatic changeover to semi-automatic mode when the object <i>38</i> is used to change to night (ON telegram), and back to fully automatic as soon as the object receives an OFF telegram (day).



Parameter name	Values	Meaning
Brightness switching value/brightness setpoint value		<i>Switching light:</i> The brightness switching value defines the minimum desired brightness. The currently prevailing brightness is measured underneath the detector. If the prevailing brightness is below the switching value, the light is switched on as soon as a presence is detected. <i>Constant lighting control:</i> The defined brightness setpoint value is achieved by controlling / dimming the lamps (objects 3, 5, 7 as well as objects 30, 32, 34).
	5 lx <b>500 lx</b> 3000 lx	The brightness switching/setpoint value is adjustable in increments between 5– 3000 lx.
		<b>Note:</b> If the brightness switching/setpoint value does not match the currently set <i>room correction factor</i> (see setting limit), the brightness switching/setpoint value is set to the corresponding limit automatically.
	<i>Measurement off ( (depending on presence only)</i>	<i>Switching light:</i> The brightness switching value can be deactivated by means of the setting <i>Measurement off (depending on presence</i> <i>only</i> ).
		The app remote control "theSenda B" (with app "theSenda Plug") or installation remote control "theSenda P" is used to assist in setting the brightness switching/setpoint value.
<i>Set brightness switching/setpoint value via bus</i>	πο	Object 11 <i>C1 Brightness switching/setpoint</i> value – receive value, object 12 <i>C1</i> <i>Brightness switching/setpoint value</i> – <i>send value</i> and object 15 <i>C1 Brightness</i> <i>switching/setpoint value (teach-in)</i> are not available. <b>Note:</b> The brightness switching/setpoint value can always be set with the remote control.
	yes	Object 11 <i>C1 Brightness switching/setpoint</i> value – receive value, object 12 <i>C1</i> Brightness switching/setpoint value – send value and object 15 <i>C1 Brightness</i> switching/setpoint value (teach-in) are visible and can be used.
Lighting time delay	30 s <b>10 min</b> 60 min	The time delay can be set between 30 seconds and 60 minutes. Each detected motion restarts the time delay.



Parameter name	Values	Meaning
		The time delay adjusts to the user behaviour by self-learning. It can increase automatically to max. 30 minutes or decrease back to the set <i>Lighting time</i> <i>delay.</i> The time delay does not change by self- learning with a setting $\leq 2$ minutes or $\geq 30$ minutes.
		The time delay applies jointly to all channels C1, C2 Light.
Set lighting time delay via bus	no	Object 41 <i>C1, C2 Lighting time delay</i> – <i>receive value</i> and Object 42 <i>C1, C2 Lighting</i> <i>time delay</i> – <i>send value</i> are not available. <b>Note:</b> The time delay can always be set with the remote control.
	yes	Object 41 <i>C1, C2 Lighting time delay – receive value</i> and Object 42 <i>C1, C2 Lighting time delay – send value</i> are displayed. The time delay can be set and called up via the bus.
Short-term presence		The lighting channel time delay can be switched off sooner if a room is occupied for only a short time. (With <i>Configuration</i> <i>type = fully automatic device</i> and <i>semi-</i> <i>automatic device</i> )
	по	The time delay is used according to the set parameter.
	<i>yes</i>	If someone enters an unoccupied room and it is only occupied for up to 30 seconds, the light is switched off earlier, after 2 minutes. Short-term presence is also applied when a push button is used to switch on or a trigger is received. This parameter is not available in <i>Master</i> aporting mode = Aura offact
Other brightness switching/setpoint value at night	по	There is only one brightness switching/setpoint value available.
	yes	A brightness switching/setpoint value for the night can be configured. During operation, it can be switched between both of these brightness setpoint values.
		The object 38 <i>C1, C2 Light – Day- night changeover</i> is visible and can be used. An ON telegram to the object switches



Parameter name	Values	Meaning
		to the brightness switching/setpoint value night. - An OFF telegram switches back to the original value. This applies to both switching and constant lighting control.
Richtons quitching (astoniat		<b>Example:</b> Implementation of day and night operation with two different brightness levels.
value night		<i>switching/setpoint value at night = yes</i> is set.
		Object 38 <i>C1, C2 Light – Day-night changeover</i> can be used to switch between the brightness switching/setpoint values during operation.
	5 lx <b>500 lx</b> 3000 lx	The brightness switching/setpoint value night is adjustable in increments between 5–3000 lx.
		<b>Note:</b> If the brightness switching/setpoint value does not match the currently set <i>Room correction factor</i> (see setting limit), the brightness switching/setpoint value night is set to the corresponding limit automatically.
	Measurement off (	Switching light:
	(depending on presence only)	The brightness switching value can be deactivated by means of the setting <i>Measurement off (depending on presence</i> only).
Set brightness switching/setpoint value night via bus		The parameter is visible if <i>Other brightness switching/setpoint value at night = yes</i> is set.
	no	Object 13 <i>C1 Brightness switching/setpoint</i> value night – receive value, object 14 <i>C1</i> Brightness switching/setpoint value night – send value and object 15 <i>C1 Brightness</i> switching/setpoint value (teach-in) are not available. <b>Note:</b> The brightness switching/setpoint value night can always be set with the app remote control "theSenda B" (with "theSenda Plug" app).
	yes	Object 13 <i>C1 Brightness switching/setpoint</i> value night – receive value, object 14 <i>C1</i> Brightness switching/setpoint value night – send value and object 15 <i>C1 Brightness</i>



Parameter name	Values	Meaning
		<i>switching/setpoint value (teach-in)</i> are
		visible and can be used.
Other time delay at night	ΠΟ	There is only one time delay available.
	yes	A time delay for the night can be
		configured. During operation, it can be
		switched between two time delays.
		The object 38 <i>C1, C2 Light – Day-</i>
		<i>night changeover</i> is visible and can be used.
		- An ON telegram to the object
		switches to the lighting time delay
		night.
		- An OFF telegram switches back to
		the original value.
		Example: Implementation of day and night
		operation with two different time delays.
Lighting time delay night		The parameter is visible if <i>Uther time delay</i>
		Object 38 <i>C1, C2 Light – Day-night</i>
		<i>changeover</i> can be used to switch between
		the time delays during operation.
	30 s <b>10 min</b>	The time delay can be set between 30
	60 min	seconds and 60 minutes. Each
		detected motion restarts the time delay.
		The time delay adjusts to the user
		behaviour by self-learning. It can increase
		automatically to max. 30 minutes or
		decrease back to the set <i>Lighting time</i>
		The time delay does not change by self-
		learning with a setting $\leq 2$ minutes or $\geq 30$
		minutes.
		The time delay applies jointly to all
Cat liablian time dalay siabl		channels C1, C2 Light.
set lighting time delay night via bus		at night = yes is set.
	00	Object 43 C1 C2 Lighting time delay night
		- <i>receive value</i> and Object 44 <i>C1, C2</i>
		<i>Lighting time delay night – send value</i> are
		not available.
		Note: The lighting time delay night can
		aiways be set with the app remote control
		נובסבווטס ט (שונוו נוובסבווטס דוטט מאָש).
	yes	Object 43 <i>C1, C2 Lighting time delay night</i>
		- <i>receive value</i> and Ubject 44 <i>L1, L2</i>
1	1	



Parameter name	Values	Meaning
		visible and can be used.

### 7.6.2 Channel C1 Light switching - detail settings

Parameter name	Values	Meaning
Lighting dimmable in	ΠΟ	The lighting cannot be dimmed.
Switching mode	yes	The lighting can be dimmed manually. The parameter <i>Duration of manual override</i> is displayed. Objects 3-7 are visible and can be used.
Duration of manual override		The parameter is visible if parameter <i>Lighting dimmable in switching mode</i> = <i>yes</i> is set.
	until lighting time delay has expired	The set dimming value applies until the time delay has elapsed. Afterwards, automatic operation will start.
	15 min120 min	The set dimming value applies until the set time or the time delay has elapsed. Afterwards, automatic operation will start.
Light standby time		The parameter is visible if parameter <i>Lighting dimmable in switching mode</i> = <i>yes</i> is set.
	inactive	The standby function is not available.
	active	The standby function is available and the parameters <i>Duration of light standby time</i> and <i>Standby dimming value</i> are displayed.
Duration of light standby time		The parameter is visible if parameter <i>Light standby time = active</i> is set.
	always ON	The lighting remains permanently on standby. The lighting switches off after 10 minutes if the brightness level in the rooms exceeds the brightness switching value. Without presence, the lighting automatically returns to the standby value if the room brightness falls below the brightness switching value. This guarantees a minimum level of lighting in darkness.



Parameter name	Values	Meaning
	30 s <b>30 min</b> 60 min	The standby time causes both lighting groups to dim to the set <i>Standby dimming</i> <i>value</i> instead of switching off, when the time delay has elapsed.
Standby dimming value		The parameter is visible if parameter <i>Light standby time = active</i> is set.
	1% <b>10%</b> 100%	The dimming values for standby can be selected in increments from 1% to 100%.
<i>Switching the light back on in semi-automatic mode during standby</i>		The parameter is visible if parameter <i>Configuration type = semi-automatic device</i> and parameter <i>Light standby time = active</i> is set.
	πο	In semi-automatic mode, the lighting does not switch on again automatically when motion is detected during active stand-by operation.
	yes	In semi-automatic mode, the lighting automatically switches on again during active stand-by operation when motion is detected, provided the brightness has fallen below the brightness switching value.
Send channel C1 Light output value cyclically	πο	Current output value of channel C1 Light is not sent cyclically.
	every 1 min60 min	Current channel C1 Light output value is sent cyclically with the selected time. <b>Note:</b> If the lighting is dimmed brighter/darker (dimmable lighting) by using a push button or remote control, or if switching off is overridden manually, the output value will NOT be sent cyclically anymore!
Activate block function	no	Block function of channel C1 Light is inactive.
	yes	Blocking channel C1 Light means that the detector does not send or processes telegrams via objects 1 to 7, although the evaluation of motion and brightness continues.



Parameter name	Values	Meaning
Start of control with	Value telegram	Control is started with a value telegram. The actuator dims up at the set dimming time.
	ON telegram	Control is started with an ON telegram. The actuator switches on and turns up the lights abruptly or gradually to the value configured on the actuator.
Start behaviour of control	without 4 bit stop Telegram	If parameter <i>Start of control with</i> = <i>value</i> <i>telegram</i> is set, control starts with the set parameter value <i>Switch-on dimming value</i> .
		If parameter <i>Start of control with = ON</i> <i>telegram</i> is set, control starts with the switch-on value set on the actuator. Example: If a switch-on value of 70% is configured on the actuator, control starts with this switch-on value, regardless of whether this value is above or below the setpoint value.
	with 4 bit stop Telegram	If parameter <i>Start of control with</i> = <i>value</i> <i>telegram</i> is set, a value telegram with the maximum value of the parameter "control range" will be sent. The actuator dims up the lights at its set dimming time.
		If for <i>Start of control with ON telegram</i> has been selected, an ON telegram will be sent. The actuator dims up the lights to its switch-on value, at its set dimming time. The detector measures the rising brightness and stops the dimming process once the <i>brightness setpoint value</i> has been reached. Control starts at this point.
Switch-on dimming value		The parameter is visible if parameter <i>Start</i> of control with = value telegram and parameter <i>Start behaviour of control</i> = without 4 bit stop telegram is set.
	30% <b>70%</b> 100%	When the controller starts, the lighting is switched on to the set <i>switch-on dimming value</i> , and control starts from this value.
Other switch-on dimming value at night <sup>5</sup>		The parameter is visible if parameter <i>Start</i> <i>of control with</i> = <i>value telegram</i> and parameter <i>Start behaviour of control</i> =

### 7.6.3 Channel C1 Light Constant lighting control - detail settings

<sup>&</sup>lt;sup>5</sup> Not available with constant lighting control without influence of presence



Parameter name	Values	Meaning
		without 4 bit stop telegram is set.
	по	There is only one switch-on dimming value available.
	yes	A switch-on dimming value for the night can be configured. During operation, it can be switched between two switch-on dimming values. The object 38 <i>C1, C2 Light – Day-</i> <i>night changeover</i> is visible and can be used. - An ON telegram to the object switches to the switch-on dimming value night. - An OFF telegram switches back to the original value.
Switch-on dimming value night		The parameter is visible if <i>Switch-on</i> <i>dimming value at night = yes</i> is set. Object 38 <i>C1, C2 Light – Day-night</i> <i>changeover</i> can be used to switch between the switch-on dimming values during operation.
	30% <b>70%</b> 100%	The switch-on dimming value night can be set in increments.
Control speed		This parameter is used to change the increment of the sent dimming value.
	Standard	Behaviour is set to its optimum level. The change happens gradually and is almost imperceptible.
	average	The change happens with a somewhat larger increment.
	fast	The change happens with a large increment. The increment size depends on the brightness actual value and brightness setpoint value. The maximum increment size is 2% for standard, 3% for average and 8% for fast.
Lower control limit	1% <b>10%</b> 25%	Minimum permitted output value.
Upper control limit	70%, 80%, 90%, <b>100%</b>	Maximum permitted output value.
Switching off when there is enough brightness	never switch off after 5 min <b>10 min</b> 9 h	If the lighting is turned down to the lower limit of the control, the lighting is switched off after the set time. With the selection <i>never switch off</i> , the lighting will never be switched off. This behaviour is valid, as long as persons are present.
Behaviour at manual dimming	school	Constant lighting control is temporarily interrupted by manual dimming. The



Parameter name	Values	Meaning
		setpoint value remains unchanged.
	office	Constant lighting control remains active temporarily after manual dimming to the current brightness value as the new setpoint value. After the time delay has expired, the originally configured set point value will be restored.
Light standby time	inactive	The standby function is not available.
	active	The standby function is available and the parameters <i>Duration of light standby time</i> and <i>Standby dimming value</i> are displayed.
Duration of light standby time		The parameter is visible if parameter <i>Light standby time = active</i> is set.
	always ON	The lighting remains permanently on standby. The lighting switches off after 10 minutes if the brightness level in the rooms exceeds the brightness setpoint value. Without presence, the lighting automatically returns to the standby value if the room brightness falls below the brightness setpoint value. This guarantees a minimum level of lighting in darkness.
	30 s <b>30 min</b> 60 min	The standby time causes both lighting groups to dim to the set <i>Standby dimming value</i> instead of switching off, when the time delay has elapsed.
Standby dimming value		The parameter is visible if parameter <i>Light standby time</i> = <i>active</i> is set.
	1% <b>10%</b> 25%	The dimming values for standby can be selected in increments from 1% to 25%.
Switching the light back on in semi-automatic mode during standby		The parameter is visible if parameter <i>Configuration type = semi-automatic device</i> and parameter <i>Light standby time = active</i> is set.
	no	In semi-automatic mode, the lighting does not switch on again automatically when motion is detected during active stand-by operation.
	yes	In semi-automatic mode, the lighting automatically switches on again during active standby operation when motion is detected, provided the brightness has fallen below the brightness setpoint value.
Send channel C1 Light output value cyclically	no	Current output value of channel C1 Light is not sent cyclically.



Parameter name	Values	Meaning
	every 1 min 60 min	Current channel C1 Light output value is sent cyclically with the selected time. <b>Note:</b> If the lighting is dimmed brighter/darker (dimmable lighting) by using a push button or remote control, or if switching off is overridden manually, the output value will NOT be sent cyclically anymore!
Activate block function	πο	Block function of channel C1 Light is inactive.
	yes	Blocking channel C1 Light means that the detector does not send or processes telegrams via objects 1 to 7, although the evaluation of motion and brightness continues.



# 7.6.4 Channel C1 Light - constant lighting control without influence of presence - detail settings

Parameter name	Values	Meaning
Start of control with	Value telegram	Control is started with a value telegram. The actuator dims up at the set dimming time.
	ON telegram	Control is started with an ON telegram. The actuator switches on and turns up the lights abruptly or gradually to the value configured on the actuator.
Start behaviour of control	without 4 bit stop Telegram	If parameter <i>Start of control with</i> = <i>value</i> <i>telegram</i> is set, control starts with the set parameter value <i>Switch-on dimming value</i> .
		If parameter <i>Start of control with</i> = <i>ON telegram</i> is set, control starts with the switch-on value set on the actuator. Example: If a switch-on value of 70% is configured on the actuator, control starts with this switch-on value, regardless of whether this value is above or below the setpoint value.
	with 4 bit stop Telegram	If parameter <i>Start of control with</i> = <i>value</i> <i>telegram</i> is set, a value telegram with the maximum value of the parameter "control range" will be sent. The actuator dims up the lights at its set dimming time.
		If for <i>Start of control with ON telegram</i> has been selected, an ON telegram will be sent. The actuator dims up the lights to its switch-on value, at its set dimming time. The detector measures the rising brightness and stops the dimming process once the <i>brightness setpoint value</i> has been reached. Control starts at this point.
Switch-on dimming value		The parameter is visible if parameter <i>Start of</i> <i>control with</i> = <i>value telegram</i> and parameter <i>Start behaviour of control</i> = <i>without 4 bit stop</i> <i>telegram</i> is set.
	30% <b>70%</b> 100%	When the controller starts, the lighting is switched on to the set <i>switch-on dimming value</i> , and control starts from this value.
Other switch-on dimming value at night <sup>6</sup>	ΠΟ	There is only one switch-on dimming value available.
	yes	A switch-on dimming value for the night

<sup>&</sup>lt;sup>6</sup> Not available with constant lighting control without influence of presence


Parameter name	Values	Meaning
Switch-on dimming value night		<ul> <li>can be configured. During operation, it can be switched between two switch-on dimming values.</li> <li>The object 38 <i>C1, C2 Light – Day-night changeover</i> is visible and can be used.</li> <li>An ON telegram to the object switches to the switch-on dimming value night.</li> <li>An OFF telegram switches back to the original value.</li> <li>The parameter is visible if <i>Switch-on dimming value at night = yes</i> is set.</li> </ul>
		Object 38 <i>C1, C2 Light – Day-night changeover</i> can be used to switch between the switch-on dimming values during operation.
Control speed		This parameter is used to change the increment of the sent dimming value.
	Standard	Behaviour is set to its optimum level. The change happens gradually and is almost imperceptible.
	average	The change happens with a somewhat larger increment.
	fast	The change happens with a large increment. The increment size depends on the brightness actual value and brightness setpoint value. The maximum increment size is 2% for standard, 3% for average and 8% for fast.
Lower control limit	1% <b>10%</b> 25%	Minimum permitted output value.
Upper control limit	70%, 80%, 90%, <b>100%</b>	Maximum permitted output value.
Switching off when there is enough brightness	never switch off after 5 min <b>10</b> <b>min</b> 9 h	If the lighting is turned down to the lower control limit, the lighting will be switched off after the set time. With the selection <i>never</i> <i>switch off</i> , the lighting will never be switched off.
Behaviour at manual dimming	school	Constant light control is interrupted by manual dimming until the controller is activated again via object 39. The setpoint value remains unchanged.
	office	Constant lighting control remains active temporarily after manual dimming to the current brightness value as the new setpoint value. After the controller has been deactivated via object 39, the set setpoint value is restored.
Send channel C1 Light output value cyclically	no	Current output value of channel C1 Light is not sent cyclically.



Parameter name	Values	Meaning
	every 1 min 60 min	Current channel C1 Light output value is sent cyclically with the selected time. <b>Note:</b> If the lighting is dimmed brighter/darker (dimmable lighting) by using a push button or remote control, or if switching off is overridden manually, the output value will NOT be sent cyclically anymore!
Activate block function	no yes	Block function of channel C1 Light is inactive. Blocking channel C1 Light means that the detector does not send or processes telegrams via objects 1 to 7, although the evaluation of motion and brightness continues.



# 7.6.5 Channel C1 Light – block function

Designation	Values	Description
Block telegram	Blocking <b>Channel C1 Light</b> means that	
		objects 1, 3 and 5, although the evaluation
		of motion and brightness continues.
		General unblocking: If no person is present and in the last 30
		seconds no trigger telegram has been
		received via object 61 <i>Parallel switching</i>
		<i>Input – Trigger Input</i> , the lighting time delay will be set to 0 upon unblocking. This
		causes the lighting to be switched off
		immediately or to be dimmed to the
		scandby–dimming value (scandby time active)
		If no person is present and in the last 30
		seconds a trigger telegram has been
		<i>input – Trigger input</i> , the lighting time
		delay will be set to 30 seconds upon
		unblocking. If no more movements are
		once the time delay expires or is set to the
		standby dimming value (standby time
		active). The lighting will not be switched off if
		motion is detected with insufficient
		brightness.
	Block with ON	Channel C1 Light is blocked with an ON
	Telegram	telegram to the block object. All telegrams
		blocking. Channel C1 Light is unblocked
		with an OFF telegram. After unblocking, the
		detector sends the current status or
	Block with OFF	The output of channel C1 Light is blocked
	Telegram	with an OFF telegram and unblocked with
Response when setting the	Send OFF telegram	An OFF telegram is sent at the start of
block		blocking.
	Send ON telegram	An ON telegram is sent at the start of
		blocking.
	do not send anv	No telegram is sent at the start of blocking
	telegram	



Designation	Values	Description
	send value X%	A value between 10% and 100% can be sent in switching mode with dimmable lighting or in constant lighting control mode.
		The current status is always sent after unblocking, for instance, an ON telegram with absence and insufficient brightness in switching mode.
Also block push button 11 and infrared operation	no	Commands from the integrated push button I1 as well as the infrared remote control continue to be processed while channel C1 Light is blocked.
	yes	Commands from the integrated push button I1 as well as the infrared remote control are not processed during the blocking of channel C1 Light.

The current status is sent at the end of the blocking.

Blocking/unblocking is also possible with scenes.



### 7.6.6 Channel C2 Light

This channel is visible if the parameters *Operating mode* = *Master* and *Activate channel* C2 - Light = yes are set.

Parameter name	Values	Meaning
Brightness difference to channel C1		The brightness difference sets the varying light requirements of lighting group C2 in comparison to lighting group C1. <b>Application:</b> Two lighting groups are installed in a room with daylight. Lighting group C1 is near the window, lighting group C2 in the interior of the room.
	5% 120%	A positive value means that in the area of lighting group C2 more artificial light is required.
	0% synchronous	Synchronous means both lighting groups are switched or controlled together.
	-5%60%	A negative value means that in the area of lighting group C2 less artificial light is required than in the area of lighting group C1.
		Also see <b>Channel C1 Light</b> , parameter <i>Brightness switching/setpoint value</i> .

All other settings for channel C2 Light are adopted from channel C1 Light.



#### 7.7 **HVAC** channels

#### 7.7.1 Channel C4, C5 HVAC

(	i	)
1	-	

The parameter page is visible if for parameter Activate channel C4 HVAC or Activate *channel C5 HVAC = yes* is set. See **General** parameter page.



 $igid{i}$  Channel C4, C5 HVAC is switched on only by presence, without the influence of brightness.

Designation	Values	Description
HVAC switch-on delay	inactive	An inactive switch-on delay means that channel HVAC switches immediately when detecting motion.
	10 s30 min	A switch-on delay of between 10 seconds and 30 minutes can be set for the channel HVAC. The channel HVAC does not switch immediately upon detection of motion, but only after the switch-on delay has expired. The switch-on delay can be set separately for each channel C4, C5. Example: A switch-on delay of 2 minutes can be set if the channel HVAC is used for controlling a fan in a toilet. The fan does not switch on if the toilet is briefly occupied, a longer presence of over 2 minutes switches the fan on.
HVAC time delay	10 s <b>15 min</b> 120 min	The time delay HVAC can be set between 10 seconds and 120 minutes. It is restarted with every new motion. The time delay can be set separately for each channel C4, C5.



#### Objects - Channel C4, C5 HVAC 7.7.2

The parameter page is visible of for parameter Activate channel C4 HVAC or Activate *channel C5 HVAC = yes* is set. See **General** parameter page.

Designation	Values	Description	
Telegram type	Switch	6 telegram types are av	ailable for selection.
	command		
	Priority		
	Value		
	Percentage		
	value		
	HVAC operating		
	mode		
	Scene		
When presence detected	no telegram	No telegrams are sent o	in detection of
	send	movement.	
	cood following	When a motion is datas	tod a one time teleacom
	telearam once	will be sent	leu, a une-linie leiegraffi
		will be serie.	
	send cyclically	After a motion is detect	ed, a telegram is sent
		cyclically.	-
Telegram	With Telegram t	type = Switch command	
	ON	Send switch-on command	
	OFF	Send switch-off command	
	For Telegram typ	ne = Priority	
		Function	Value
	no priority	Priority inactive	
		(no control)	
	Priority ON	Priority ON	3 (11 <sub>bin</sub> )
		(control: enable, on)	
	Priority UFF		2 (10bin)
	For Tologram by	(control: disable, orr)	
	U255		
		be = Percentage value	1 0 1400%
	<i>U100</i> %	Any percentage value b	etween U and TUU% can
	For Tologram by	De sent.	da
			le
	Αυτο	HVAC operating modes:	
	Comfact	Comfort: 2	
	Standhy	Standhy: 3	
	Temperature	Temperature reduction	at night: 4
	reduction at		or mynt. T
	niaht		
	Frost protection	Frost protection: 5	



Designation	Values	Description	
	For <i>Telegram type = Scene</i>		
	Scene <b>1</b> 64	Any scene number can be sent.	
At the end of the time delay	no telegram send	No telegram is sent on completion of the time delay.	
	send following telegram once	At the end of the time delay, a single telegram sent.	
	send cyclically	No telegram is sent cyc time delay.	lically at the end of the
Telegram	With Telegram t	ype = Switch command	
	ON	Send switch-on comma	nd
	OFF	Send switch-off comma	nd
	For Telegram typ	ne = Priority	
		Function	Value
	no priority	Priority inactive (no control)	0 (00 <sub>bin</sub> )
	Priority ON	Priority ON (control: enable, on)	3 (11 <sub>bin</sub> )
	Priority OFF	Priority OFF (control: disable, off)	2 (10 <sub>bin</sub> )
	For <i>Telegram typ</i>	pe = Value	
	<b>0</b> 255	Any value between 0 ar	nd 255 can be sent.
	For <i>Telegram ty</i>	pe = Percentage value	
	<b>0</b> 100%	Any percentage value between U and TUU% can be sent.	
	For <i>Telegram typ</i>	pe = HVAC operating mod	de
	Auto	HVAC operating modes: Auto: 1	
	Comfort	Comfort: 2	
	Standby	Standby: 3	at aight 1
	reduction at	remperature reduction at hight. 4	
	night		
	Frost protection	Frost protection: 5	
	For <i>Telegram typ</i>	pe = Scene	
	Scene 1 <b>2</b> 64	Any scene number can	be sent.
Should a second telegram be sent?	по	No second telegram is s	sent.
	<i>yes</i>	In addition to telegram telegram C4.2 or C5.2 is telegrams or parameter available for selection.	C4.1 or C5.1, a second s sent. The same s as for C4.1 or C5.1 are
Activate block function	no	Block function of chann inactive.	el C4 or C5 HVAC is



Designation	Values	Description
	yes	Blocking of channel C4 or C5 HVAC means that the detector does not send any telegrams via
		objects 50 to 52, or 53 to 55.

### 7.7.3 Channel C4, C5 HVAC – block function

The parameter page is visible if for parameter *Activate block function* = *yes* is set. See parameter page **Objects**.

Designation	Values	Description
Block telegram	Block with ON Telegram	Channel C4 or C5 HVAC is blocked with an ON telegram to the block object. All telegrams are suppressed for the duration of the blocking. Channel C4 or C5 HVAC is unblocked with an OFF telegram.
	Block with OFF Telegram	The output of channel C4 or C5 HVAC is blocked with an OFF telegram and unblocked with an ON telegram.
Response when setting the block do not send any telegral as if presendetected		No telegram is sent at the start of blocking. At the start of the block, the detector responds as if presence is detected.
	as at the end of the time delay	At the start of the block, the detector responds as at the end of the time delay.



#### 7.8 Room monitoring

#### 7.8.1 Room monitoring channel C6

The parameters are visible if for parameter *Activate channel C6 room monitoring = yes* is set.

Designation	Values	Description
Type of report	Cyclical with acknowledgement	The channel sends an ON telegram on detection of a movement. It repeats the ON telegram in cyclical intervals, as long as there is no acknowledgement.
	Switching On/Off	The parameters <i>Room monitoring time delay</i> and <i>Response at start/end of presence</i> are displayed. On detection of motion, the channel sends an ON telegram, and an OFF telegram or no telegram after the room monitoring time delay has elapsed.
Dead time room monitoring		The parameter is visible if parameter <i>Type</i> of report = cyclical with acknowledgement is set.
	deactivated	After acknowledgement, an ON telegram is immediately sent again at the next motion.
	30 s <b>5 min</b> 30 min	After acknowledgement, it takes the set time until an ON telegram is sent again at the next motion.
Room monitoring time delay		The parameter is visible if parameter <i>Type</i> of report = switching On/Off is set.
	30 s <b>5 min</b> 30 min	With every motion, the set time delay will be restarted.
<i>Response at start/end of presence</i>		The parameter is visible if parameter <i>Type</i> of report = switching On/Off is set.
	only send ON telegram	The OFF telegram is not sent at the end of presence.
	Send ON and OFF telegram	Both the ON and the OFF telegram are sent.
Waiting time for confirmation		The parameter is visible if parameter <i>Type</i> of report = cyclical with acknowledgement is set.



Designation	Values	Description
	30 s <b>5 min</b> 30 min	ON telegram cyclically repeats if no acknowledgement is received within the configured waiting time.
<i>Response upon return of bus voltage</i>	Room monitoring blocked	Room monitoring channel C6 is blocked at a restart after loss of the bus voltage.
	Room monitoring enabled	Room monitoring channel C6 is enabled at a restart after loss of the bus voltage.
Sabotage cyclically	inactive	Sabotage monitoring is not used.
	active	The sabotage object cyclically sends OFF telegrams to reveal unauthorised removal of the detector or a bus interruption.
Cycle time sabotage		The parameter is visible if parameter <i>Sabotage cyclically = active</i> is set.
	30 s <b>4 min</b> 30 min	If the sabotage object is activated, the OFF telegrams are sent at the set cycle time.

# 7.9 Remote control

Designation	Values	Description
Channel C1 Light	inactive	No IR group address was assigned to the
Channel C2 Light		relevant channel, and it cannot be influenced by
<i>External switching/dimming</i> 1		the user remote controls theSenda B and theSenda S.
External switching/dimming 2		
External blinds 1		
External blinds 2		
	I, II, III, IV, V, VI, VII, VIII	An IR group address is allocated to the respective channel. The channel reacts to the commands from the user remote controls theSenda B and theSenda S.
	all	All IR group addresses are allocated to the respective channel. The channel reacts to the commands from the user remote controls theSenda B and theSenda S.



# 7.10 Scenes

# 7.10.1 Scenes

Designation	Values	Description
Scene controls		The detector has a simple, internal scene
		component. A scene is used to store values
		(On, Off with switching operating mode,
		percentage values with constant lighting
		Control) for the light outputs.
		- absent
		- switch on light by using a push button or
		user remote control theSenda B or
		theSenda S
	inactive	Scene controls are not supported.
		The scenes can be called up by proceing the
		scene buttons on theSenda B or theSenda S
		user remote control, or via a telegram to
		scene object 47 or 65.
	Send scene	Scene numbers can be assigned to the
	number on bus	Scene 1 🖻 and Scene 2 🖻 buttons on
		control
Define scenes with		This parameter is visible if parameter <i>Scene</i>
		<i>controls</i> = <i>use internal scenes</i> is set.
	ETC	The following personators are displayed:
	E13	- Nutnut value user remote control scene 1
		channel C1 Light
		- Output value user remote control scene 2,
		channel C1 Light
		- Output value user remote control scene 1,
		channel C2 Light
		- Output Value user remote control scene 2, channel C2 Light
		The output values are fixed by the values
		configured in the ETS.
	Remote control	The output values are stored with the user
		remote control. See theSenda B or
Nutnut value user remote		Value of scene 1, channel C1 in switching
control scene 1. channel C1	On	mode without dimmable lighting.
		······································
	0% <b>30%</b>	Value of scene 1, channel C1 in switching
	100%	mode with dimmable lighting or constant
		lighting control.
Uutput value user remote	Ult	Value of scene 2, channel C1 in switching



Designation	Values	Description
control scene 2, channel C1	On	mode without dimmable lighting.
	0% <b>70%</b>	Value of scene 2, channel C1 in switching
	100%	mode with dimmable lighting or constant lighting control.
Output value user remote	Off	Value of scene 1, channel C1 in switching
control scene 1, channel C2	On	mode without dimmable lighting.
	0% <b>30%</b>	Value of scene 1, channel C2 in switching
	100%	mode with dimmable lighting or constant
		lighting control.
Output value user remote	Off	Value of scene 2, channel C2 in switching
control scene 2, channel C2	On	mode without dimmable lighting.
	0% <b>70%</b>	Value of scene 2, channel C2 in switching
	100%	mode with dimmable lighting or constant lighting control.
Scene number user remote		The parameter is visible if parameter Scene
control button scene 1 (0 = inactive)		<i>controls = Send scene number on bus</i> is set.
. ,	<b>0</b> 64	The set scene number is sent on object 66.
Scene number user remote		The parameter is visible if parameter <i>Scene</i>
control button scene 2 (0 = inactive)		<i>controls = Send scene number on bus</i> is set.
	<b>0</b> 64	The set scene number is sent on object 66.



#### 7.10.2 Scene functions

Designation	Values	Description
Scene function 1		The behaviour of the detector can be
Scene function 2		controlled with 8 different scene functions.
Scene function 3		
Scene function 4		
Scene function 5	inactiva	No coope sumber that blacks the detector is
Scene function b	Inactive	No scene number that blocks the detector is defined
Scene function 8		
	l lse outout values	Use additional selection with internal
	internal scene 1/2	scenes
	Deactivate control	Control is stopped, object 5 <i>C1</i> or object 32 <i>C2 light output - send value</i> no longer send
		any telegram. After the time delay has
		elapsed, object 1 <i>C1</i> or object 28 <i>C2 light</i>
		<i>output - switching</i> are used to send an UFF
		telegram.
	Activate control	The constant lighting control is activated.
		The detector controls the lighting
		depending on brightness.
	Block lighting	Blocking of channels C1, C2 Light.
	CNANNEIS	Upplacking of shappeds (1, (2) Light
	channels	Unblocking of channels CT, CZ Light.
Scene number	<b>0</b> 64	Scene number matching the respective
		scene function.
Validity of block	until unblocking	Manual unblocking of the lighting channels
		is possible any time:
		- Receiving the corresponding scene
		number on object 47 <i>External scene -</i>
		<i>receive.</i>
		- Onolocking command of the channels
		Block/unblock
	1 h9 h	Lighting channels remain disabled during
		the set time.



# 7.11 Logic channels

# 7.11.1 Logic channel C18..C23



The parameter page is visible if for parameter *Number – logic channels* at least 1 channel is set. See **General** parameter page.

Designation	Values	Description
Type of link		Selection of logical link between the 1 bit input values (see below)
	AND	2 to 4 inputs
	OR	2 to 4 inputs
	XOR	2 inputs
Use input 1	yes	Input is used.
	yes, inverted	Input acts inverted.
Use input 2	yes	Input is used.
	yes, inverted	Input acts inverted.
Use input 3	по	Input is not used.
	yes	See above.
	yes, inverted	
Use input 4	по	Input is not used.
	yes yes, inverted	See above.



# 7.11.2 Objects logic channel C18...C23

Designation	Values	Description	
Telegram type	Switch command	6 telegram types a	re available for selection.
	Priority		
	Value		
	Percentage value		
	HVAC operating mode		
	Scene		
If the condition is met	no telegram	Transmission beha	viour if the channel
	send	condition is fulfille	d.
	send rollowing		
	cond cyclically		
Tologgam	With Talagger tugo	witch commond	
Telegram	with relegram type = $3$		
	UN	Send switch-on co	mmand
	OFF	Send switch-off co	mmand
	For <i>Telegram type</i> = <i>Pri</i>	iority	
		Function	Value
	no priority	Priority inactive	0 (00 )
		(no control)	U (UUbin)
	Priority ON	Priority ON	
		(control: enable,	3 (11 <sub>bin</sub> )
		on)	
	Priority OFF	Priority OFF	
		(control: disable,	2 (10bin)
	For <i>Telegram type</i> – Va		
	0 <b>255</b>	Any value betweer	n A and 255 can be sent
	Eng Talaacam tuna - Pa		
	1 of Telegrann type - Te	Any norsentane va	lue between 0 and 100%
	<i>U</i> <b>100</b> 70	Any percentage va	
	For Telegram type – HVAC operating mode		1
	Auto	HVAC operating m	odes:
	7010		0005.
	Comfort	Comfort: 2	
	Standby	Standby: 3	
	Temperature reduction	Temperature redu	ction at night: 4
	at night		5
	Frost protection	Frost protection: 5	
	For <i>Telegram type</i> = Sc	ene	
	Scene <b>1</b> 64	Any scene number	can be sent.
If the condition is not mot	no telearem	Transmission bobs	wiour if the channel
	send	randition is not ful	
	send following		inneo.
	telearam once		
	send cyclically		
Telenram	With <i>Telegram type</i> = S	witch command	
	ON	/ Sond switch-on command	
	OFF	Sond switch off co	mmand
	UFF	Sella Switch-OILCO	UIIIIIIIIU



Designation	Values	Description	
	For <i>Telegram type = Priority</i>		
	5 71	Function	Value
	no prioritv	Priority inactive	a (aa )
	, ,	(no control)	U (UUbin)
	Priority ON	Priority ON	
		(control: enable,	3 (11 <sub>bin</sub> )
		on)	
	Priority OFF	Priority OFF	2 (12)
		(CONTROI: DISADIE,	Z (IUbin)
	For <i>Telegram type</i> = <i>Va</i>	lue	
	<b>0</b> 255	Any value betweer	n O and 255 can be sent.
	For <i>Telegram type</i> = <i>Pe</i>	rcentage value	
	<b>0</b> 100%	Any percentage va	lue between 0 and 100%
		can be sent.	
	For <i>Telegram type</i> = <i>HV</i>	AC operating mode	
	Auto	HVAC operating m	odes:
		Auto: 1	
	Comfort	Comfort: 2	
	Standby	Standby: 3	
	Temperature reduction at night	Temperature reduc	ction at night: 4
	Frost protection	Frost protection: 5	
	For <i>Telegram type</i> = <i>Sc</i>	ene	
	Scene 1 <b>2</b> 64	Any scene number	can be sent.
Should a second telegram be sent?	по	No second telegram is sent.	
	yes	In addition to telec	gram C18.1, a second
		The same telenrar	sent. As or narameters as for
		the first telegram (	e.g. C18.1) are available
		for selection.	, ,
Activate block function	ΠΟ	Block function is ir	active.
	ves	Block function mea	ans that the detector
	, ,	does not send tele	grams via logic module
		objects.	
Telegram after reset or	as with unfulfilled	Reaction of channe	el upon a restart.
download			
	as with ruirilled		
	Status		
	unknown: do not send		



#### 7.11.3 Logic channel C18...C23 - block function

**(i)** The parameter page is visible if for parameter *Activate block function = yes* is set. See parameter page **Objects**.

Designation	Values	Description
Block telegram	Block with ON telegram	The logic channel is blocked with an ON telegram to the block object. All telegrams are suppressed for the duration of the blocking. The logic channel is unblocked with an OFF telegram.
	Block with OFF telegram	The output of the logic channel is blocked with an OFF telegram and unblocked with an ON telegram.
<i>Response when setting the block</i>	do not send any telegram	No telegram is sent at the start of blocking.
	as with fulfilled condition	Same response as in parameter <i>If the condition is met</i> (see above).
	as with unfulfilled condition	Same reaction as in parameter If the condition is not met (see above).
Response when the block is cancelled	do not send	Not automatically resent when the block is cancelled.
	Update channel	The current channel status is sent immediately as soon as the block is cancelled.



# 7.12 Integrated push button I1

The parameters are visible if for parameter *Activate integrated push button = yes* is set.

#### 7.12.1 Configuration options parameter page, Push button function

Designation	Values	Description
Function	Push button	Desired use.
	Dimming	
	Blinds	
	Control lighting	
	channel C1 directly	
	Control lighting	
	channel C2 directly	
	Control lighting	
	channels C1 and C2	
Debaura time	directly	
Debounce time	30 ms, <b>50 ms</b> , 80 ms,	In order to avoid a disruptive switching due
	100 IIIS, 200 IIIS, 1 S, 5 ς 1Ω ς	the input the new status of the input is
	55, 105	only accepted after a delay time
		Larger values ( $\geq 1$ s) can be used as a
		switch-on delay.
Long button push starting	<b>300 ms</b> , 400 ms, 500	Serves to clearly differentiate between long
at	ms, 600 ms, 700 ms,	and short button push.
	800 ms, 900 ms, 1 s	If the button is pressed for at least as long
		as the set time, then a long button push
		will be registered.
Time for double-click	<b>300 ms</b> , 400 ms, 500	Serves to differentiate between a double-
	MS, 600 MS, 700 MS,	CIICK and 2 single CIICKS.
	000 1115, 900 1115, 1 5	here benou in which the second click must
Cycle time for sending	everv min	Common cycle time for all 2 output objects
cvclically	every 2 min	of the channel.
	every 3 min	
	every 30 min	
	every 45 min	
	every 60 min	
How many telegrams are	one telegram	Each channel has 2 output objects and can
to be sent	two telegrams	thus send up to 2 different telegrams.
Activate block function	no	No block function.
	ves	Show parameters for the block function.
Block teleoram	Block with ON	0 = cancel block
	telegram	1 = block
	Block with OFF	0 = block
	telegram	1 = cancel block



Designation	Values	Description	
Object type	Switching (1 bit)	Telegram type for this object.	
	Priority (2 bit)		
	Value 0-255		
	Percentage value (1 byte)		
Send after short	do not send	Respond to short button push	?
operation	Send telegram		
Telegram	With object type = switching		
	1 bit	1	
	On	Send switch-on command	
	Off	Send switch-off command	
	Change over	Invert current state (ON-OFF-C	DN etc.)
	With object type = priority 2 bit	L	1
		Function	Value
	no priority	Priority inactive	0 (00 <sub>bin</sub> )
		(no control)	- ()
	Priority UN		3 (11 <sub>bin</sub> )
	Deigeite: OFF		
		Priority UFF	2 (10 <sub>bin</sub> )
	With abject type - yalue 0 255		
	$V_{1111} Object type = Value 0-255$	Any value between 0 and 255	can ho
	0-233	Any value between 0 and 255	
	With object type - percentage	sent.	
	value 1 hvte		
	0- <b>100%</b>	Any perceptage value between	n O and
		100% can be sent.	
Send after long	do not send	Respond to long button push?	
operation	Send telegram		
Telegram	See above: Same object type		
_	as with short operation.		
Send after double-click	do not send	Respond to double-click?	
	Send telegram		
Telegram	See above: Same object type		
	as with short operation.		
Send cyclically	πο	The cycle time is set on the ma	əin
	yes	parameter page of the channe	l.
Response after	none	Do not send.	
restoration of the bus			
supply	as after short (immediately)	Send update telegram immedi	ately or
	as after short (after 5 s)	with delay.	
	as after short (after 10 s)	The value to be sent depends	on the
	as after short (after 15 s)	value configured for long butto	on pusn, lick
	as after long (immediately)		IILK.
	as after long (after 5 s)		
	as arter long (arter 10 s)		
	as arter long (after 15 s)		
	as with double-click		
	(IIIIIIeuidlely)		
	as with double click (after 5 5)		
	as with double click (after 10 5)		
	as with unuble-tiltk (arter 15 S)		

### 7.12.1.1 Push button object 1,2, parameter page *Push button function*



Designation	Values	Description
Response when setting the block	Ignore block	The block function is ineffective with this telegram.
	no response	Do not respond when the block is set.
	as with short	Respond as with a short button push.
	as with long	Respond as with a long button push.
	as with double-click	Respond as with a double-click.
Response when the block is cancelled	no response	Do not respond when the block is cancelled.
	as with short	Respond as with a short button push.
	as with long	Respond as with a long button push.
	as with double-click	Respond as with a double-click.



# 7.12.2 Configuration options parameter page, Dimming function

Designation	Values	Description
Function	Push button	The push button controls a dimming
	Dimming	actuator.
	Blinds	
	Lontrol lighting channel L l	
	Olfectly	
	directly	
	Control lighting channels C1	
	and C2 directly	
Debounce time	30 ms, <b>50 ms</b> , 80 ms, 100 ms,	In order to avoid a disruptive switching
	200 ms, 1 s, 5 s, 10 s	due to debouncing of the push button,
		the new status is only accepted after a
		delay time.
		Larger values ( $\geq 1$ s) can be used as a
		switch-on delay
Activate block function	по	No block function.
	yes	Show <b>Block function</b> parameter page.
Block telegram	Block with ON telegram	0 = cancel block
		1 = block
	Block with OFF telegram	0 = block
		1 = cancel block
Long button push	<b>300 ms</b> , 400 ms, 500 ms,	Serves to clearly differentiate between
starting at	600 ms, 700 ms, 800 ms,	long and short button push.
	900 ms, 1 s	If the button is pressed for at least as
		long as the set time, then a long
Double click additional	22	Ne double, click function
function	110	
	yes	The Double-click parameter page is
		displayed.
Time for double-click	<b>300 ms</b> , 400 ms, 500 ms,	Serves to differentiate between a
	600 ms, 700 ms, 800 ms,	double-click and 2 single clicks.
	900 ms, 1 s	Time period in which the second click
		must begin, in order to recognise a
		double-click.



Designation	Values	Description
Response to		The input distinguishes between a
long/short		long and a short button push, and can
	One button operation	The dimmer is operated with a single
		push button.
		Short button push = ON/OFF
		Long button push
		release = stop
		With the other variants, the dimmer is
		operated using 2 buttons (rocker).
	hriahter/On	Short button push = ON
		Long button push = brighter
		Release = stop
	briahter/change over	Short button push
		= ON/OFF
		Long button push = brighter
		Release = stop
	darker/Off	Short button push = OFF
		Long button push = darker
		Release = stop
	darker/change over	Short button push
		= ON/OFF
		Long button push = darker
Increment for		Release = stop With a long button push, the dimming
dimminq <sup>7</sup>		value is:
5		
		Increased (or decreased) until the
		button is released.
	100%	Increased by the selected value
	50%	(or reduced)
	25%	
	12.5% 6%	
	3%	
	1.5%	
Response after	none	Do not respond.
restoration of the bus	0 n	Switch on dimmer
		Switch on diminer

### 7.12.2.1 Dimming parameter page, *Dimming function*

 $^{\rm 7}$  Not available with one button operation.

Designation	Values	Description
	Off	Switch off dimmer
	after 5 s On after 10 s On after 15 s On	Switch on dimmer with delay
	after 5 s Off after 10 s Off after 15 s Off	Switch off dimmer with delay
Response when setting the block	Ignore block	The block function is ineffective with this telegram.
	no response	Do not respond when the block is set.
	On	Switch on dimmer
	Off	Switch off dimmer
Response when the block is cancelled	no response	Do not respond when the block is cancelled.
	On	Switch on dimmer
	Off	Switch off dimmer



Designation	Values	Description	
Object type	Switching (1 bit)	Telegram type for this object	:t.
	Priority (2 bit)		
	Value 0-255		
	Percentage value (1 byte)		
Telegram	With object type = switching		
	1 bit		
	On	Send switch-on command	
	Off	Send switch-off command	
	Change over	Invert current state (ON-OFF	-ON etc.)
	With object type = priority 2 bit		1
		Function	Value
	no priority	Priority inactive	0 (00 <sub>bin</sub> )
		(no control)	
	Priority ON	Priority ON	3 (11 <sub>bin</sub> )
		(control: enable, on)	3 (11011)
	Priority OFF	Priority OFF	2 (10 <sub>bin</sub> )
		(control: disable, off)	_ ( ,
	With object type = value $0-255$		
	<b>U</b> -255	Any value between 0 and 25	op cau pe
	with object type = $percentage v$		- · ·
	<b>0</b> -100%	Any percentage value betwe	en U and
		100% can be sent.	12
Send cyclically	do not send cyclically	How often should it be rese	nt?
	every min		
	every 2 min		
	 every 45 min		
	every 60 min		
Response after	none	Do not send.	
, restoration of the bus			
supply	as with double-click	Send update telegram imme	ediately or
	(immediately)	with delay.	
	as with double-click (after 5 s)	The value to be sent depend	ls on the
	as with double-click (after 10 s)	value configured for double	-click.
	as with double-click (after 15 s)		
Response when setting	Ignore block	The block function is ineffec	tive with
the block		this telegram.	
	no response	Do not respond when the bl	ock is set.
	as with double-click	Respond as with a double-c	lick.
Response when the	no response	Do not respond when the bl	ock is
DIOCK IS CANCELLED		cancelled.	
			liale
	as with double-click	Respond as with a double-c	IICK.

#### 7.12.2.2 Double-click parameter page, *Dimming function*



Designation	Values	Description
Function	Push button	The push button controls a blinds
	Dimming	actuator.
	Blinds	
	Control lighting channel C1	
	directly	
	Control lighting channel C2	
	directly	
	Control lighting channels C1	
	and C2 directly	
Debounce time	30 ms, <b>50 ms</b> , 80 ms, 100 ms,	In order to avoid a disruptive switching
	200 ms, 1 s, 5 s, 10 s	due to debouncing of the isput is asly
		accorded after a delay time
		arrier values (> 1 s) can be used as a
		switch-on delay.
Long button push	<b>300 ms</b> , 400 ms, 500 ms,	Serves to clearly differentiate between
starting at	600 ms, 700 ms, 800 ms,	long and short button push.
	900 ms, 1 s	If the button is pressed for at least as
		long as the set time, then a long
		button push will be registered.
Double-click additional	по	No double-click function
function		The Deuble elighter second as a second
	yes	I ne <b>Double-click</b> parameter page is
Time for double-click	<b>300 ms</b> / 00 ms 500 ms	Serves to differentiate between a
	600 ms 700 ms 800 ms	double-click and 2 single clicks
	900 ms. 1 s	Time period in which the second click
		must begin, in order to recognise a
		double-click.
Activate block function	по	No block function.
	yes	Display parameter page <b>Block</b>
		function.
Block telegram	Block with ON telegram	0 = cancel block
		I = DIOCK
	Black with OFF talaacam	$\Omega = block$
		1 = cancel block

# 7.12.3 Configuration options parameter page, Blinds function



### 7.12.3.1 Blinds parameter page, Blinds function

Designation	Values	Description
Operation		The input distinguishes between a
		long and a short button push, and can
		thus carry out 2 functions.
	One button operation	The blinds are operated with a single
		button.
		Short button push = step.
		Long button push = move.
	Down	Short button push = step.
		Long button push = lower.
	Οp	Short button push = step.
		Long button push = raise.
Movement is stopped	releasing the button	How is the stop command to be
by	short operation	triggered?
Response after	none	Do not respond.
restoration of the bus		
supply	Up	Raise blinds
	Down	Lower blinds
	after 5 s Up	Raise Dlinds
	after 10 s Up	with delay
	after 15 s Up	
	offer E c Deuve	Lower blinds with dolay
	after 10 c Down	Lower Diffius with delay
	after 15 s Down	
Response when setting	lange block	The block function is ineffective with
the block	Ignore block	this telegram
the block		
		Do not respond when the block is set
	no response	be not respond when the block is set.
	1 In	Raise blinds
	Down	Lower blinds
Resonase when the		Do not respond when the block is
hlock is cancelled		cancelled
	Un	Raise blinds
	Down	Lower blinds



Designation	Values	Description	
Object type	Switching (1 bit)	Telegram type for this obj	ect.
	Priority (2 bit)		
	Value 0-255		
	Percentage value (1 byte)		
	Height % + slat %		
Telegram	With object type = switching		
	1 bit	1	
	On	Send switch-on command	
	Off	Send switch-off command	
	Lhange over	Invert current state (UN-U	FF-ON
		etc.)	
	WITH ODJECT TYPE = PRIORITY 2 DIT	Fuerlies	Malua
		FUNCTION Detective to a chive	value
	πο μποπεγ		0 (00 <sub>bin</sub> )
	Principy ON		
	Friding ON		3 (11 <sub>bin</sub> )
	Princity OFF		
		(control: disable_off)	2 (10 <sub>bin</sub> )
	With object type = value 0-255		
	<b>0</b> -255	Any value between 0 and	255 can
		be sent.	
	With object type = percentage	·	
	value		
	1 byte		
	<b>0</b> -100%	Any percentage value betw	ween O
		and 100% can be sent.	
	With object type = height % + slat %		
		Upon double-click 2 teleg	rams are
		sent simultaneously:	
	Height <b>0</b> -100%	Desired height of blinds	
	Slat <b>0</b> -100%	Desired slat position.	
Send cyclically	do not send cyclically	How often should it be res	sent?
	every min		
	every 2 min		
	every 3 min		
	every 45 min		
0 (	every 60 min		
Response after restoration of the bus	none	DO NOT SEND.	
supply	as with double-click	Send update telegram imr	nediately
	(immediately)	or with delay.	,
	as with double-click (after 5 s)	The value to be sent depe	nds on the
	as with double-click (after 10 s)	value configured for doub	le-click.
	as with double-click (after 15 s)		

#### 7.12.3.2 Double-click parameter page, *Blinds function*



Designation	Values	Description
Response when setting the block	Ignore block	The block function is ineffective with this telegram.
	no response	Do not respond when the block is set.
	as with double-click	Respond as with a double-click.
Response when the block is cancelled	no response	Do not respond when the block is cancelled.
	as with double-click	Respond as with a double-click.



#### 7.12.4 Function Control lighting channel C1, C2 directly: Switching.

igcup The integrated push button controls the selected lighting channel(s) directly and no longer needs to be connected via the bus.

In this configuration, the integrated push-button has no send objects. The block object remains available.



 $igodoldsymbol{0}$  This function is available if at least one lighting channel is activated on the General parameter page and C1 only supports the switch function.<sup>8</sup>

Designation	Values	Description
Function	Push button <b>Dimming</b> Blinds	
	Control lighting channel C1 directly Control lighting channel C2 directly Control lighting channels C1 and C2 directly	Control only C1, C2 or both together.
Debounce time	30 ms, <b>50 ms</b> , 80 ms, 100 ms, 200 ms, 1 s, 5 s, 10 s	In order to avoid a disruptive switching due to debouncing of the push button, the new status is only accepted after a delay time. Larger values (≥ 1 s) can be used as a switch-on delay
Activate block function	no yes	No block function. Show <b>Block function</b> parameter page.
Block telegram	Block with ON telegram	0 = cancel block 1 = block
	Block with OFF telegram	0 = block 1 = cancel block

<sup>&</sup>lt;sup>8</sup> With Light function = Switching light and Lighting dimmable in switching mode = no.



### 7.12.4.1 Direct switching parameter page

Designation	Values	Description
Send after short	no response	Push button remains without effect
operation		
	switching	Switching light
Switching status	On	Switch on
	Off	Switch off
	Change over	Invert current state (ON-OFF-ON etc.)
Response when setting	Ignore block	The block function is ineffective with
the block		this telegram.
	no response	Do not respond when the block is set.
	as with short	Respond as with a short button push.
Response when the	no response	Do not respond when the block is
block is cancelled		cancelled.
	as with short	Respond as with a short button push.



#### 7.12.5 Function Control lighting channel C1, C2 directly: Dimming.

The integrated push button controls the selected lighting channel(s) directly and no longer needs to be connected via the bus.

In this configuration, the integrated push-button has no send objects. The block object remains available.



This function is available if at least one lighting channel is activated on the **General** parameter page and C1 only supports the dimming function.<sup>9</sup>

Designation	Values	Description
Function	Push button <b>Dimming</b> Blinds Control lighting channel C1 directly Control lighting channel C2 directly Control lighting channels C1 and C2 directly	Control only C1, C2 or both together.
Debounce time	30 ms <b>, 50 ms,</b> 80 ms, 100 ms, 200 ms, 1 s, 5 s, 10 s	In order to avoid a disruptive switching due to debouncing of the push button, the new status is only accepted after a delay time. Larger values ( $\geq 1$ s) can be used as a switch-on delay
Activate block function	no	No block function.
Block telegram	Block with ON telegram	0 = cancel block 1 = block 0 = block 1 = cancel block
Long button push starting at	<b>300 ms</b> , 400 ms, 500 ms, 600 ms, 700 ms, 800 ms, 900 ms, 1 s	Serves to clearly differentiate between long and short button push. If the button is pressed for at least as long as the set time, then a long button push will be registered.
Double-click additional function	no yes	No double-click function The <b>Double-click</b> parameter page is displayed.

<sup>&</sup>lt;sup>9</sup> With *Light function = Constant lighting control* (with and without influence of presence) or with *Switching light* if *Lighting dimmable in switching mode = yes*.



Designation	Values	Description
Time for double-click	<b>300 ms</b> , 400 ms, 500 ms, 600 ms, 700 ms, 800 ms, 900 ms, 1 s	Serves to differentiate between a double-click and 2 single clicks. Time period in which the second click must begin, in order to recognise a double-click

# 7.12.5.1 Dimming directly parameter page

Designation	Values	Description		
Response to long/short		The input distinguishes between a long and a short button push, and can thus carry out 2 functions.		
	One button operation	The dimmer is operated with a single push button. Short button push = ON/OFF Long button push = brighter/darker release = stop		
		With the other variants, the dimmer is operated using 2 buttons (rocker).		
	brighter/On	Short button push = ON Long button push = brighter Release = stop		
	brighter/change over	Short button push = ON/OFF Long button push = brighter Release = stop		
	darker/Off	Short button push = OFF Long button push = darker Release = stop		
	darker/change over	Short button push = ON/OFF Long button push = darker Release = stop		
Increment for dimming <sup>10</sup>		With a long button push, the dimming value is:		
	<b>100%</b> 50% 25%	Increased (or decreased) until the button is released.		

<sup>&</sup>lt;sup>10</sup> Not used with one button operation.





Designation	Values	Description		
	12.5%	Increased by the selected value		
	6%	(or reduced)		
	3%			
	1.5%			
Response when	Ignore block	The block function is ineffective with		
setting the block		this telegram.		
	no response	Do not respond when the block is set.		
	0n	Switch on dimmer		
	255			
	Uff	Switch off dimmer		
Response when the	no response	Do not respond when the block is		
block is cancelled		cancelled.		
	On	Switch on dimmer		
	Off	Switch off dimmer		

# 7.12.5.2 Double-click parameter page

Designation	Values	Description	
Dimming value	<b>0</b> -100%	Desired dimming value on double-	
		click.	
Response when	Ignore block	The block function is ineffective with	
setting the block		this telegram.	
	no response	Do not respond when the block is set.	
	as with double-click	Respond as with a double-click.	
Response when the	no response	Do not respond when the block is	
block is cancelled		cancelled.	
	as with double-click	Respond as with a double-click.	



# 7.13 Binary input I2 and I3

The parameters are visible if for parameter *Activate binary inputs = yes* is set.

#### 7.13.1 Configuration options parameter page, Switch function

Designation	Values	Description		
Function	Switch	Desired use.		
	Push button			
	Dimming			
	Blinds			
Debounce time	30 ms, <b>50 ms</b> , 80 ms, 100 ms,	In order to avoid disruptive switching		
	200 ms, 1 s, 5 s, 10 s	due to bouncing of the contact		
		connected to the input, the new		
		status of the input is only accepted		
		after a delay time.		
		Larger values ( $\geq 1$ s) can be used as a		
		switch-on delay		
Cycle time for sending	every min	Common cycle time for both output		
cyclically	every 2 min	objects of the channel.		
	every 3 min			
	every 30 min			
	every 45 min			
	every 60 min			
How many telegrams	one telegram	Each channel has 2 output objects		
are to be sent	two telegrams	and can thus send up to 2 different		
A - live he had a function		telegrams.		
ACCIVACE DIOCK FUNCTION	no	NO DIOCK FUNCTION.		
	No.	Chaur parameters for the black		
	yes			
Dlack talaacam	Black with ON talagge			
BIOLK LEIEYTAITT	BIOCK WILLI UN LEIEGTAIII	U = LdHLeH DHULK		
	Plack with OEE talaacam			
		U = U U C K		



### 7.13.1.1 Switch objects 1, 2 parameter page

0 Each of the 2 objects can be configured individually on its own parameter page.

Designation	Values	Description		
Object type	Switching (1 bit)	Telegram type for this objec	ct.	
	Priority (2 bit)	5 51 5		
	Value 0-255			
	Percentage value (1 byte)			
Send if	по	Send if voltage is present at the		
input = 1	yes	input?		
Telegram	Nith object type = switching			
		Cond with an annual		
	011	Send Switch-on command		
	<i>Off</i>	Sand switch-off command		
	011	Send Switch on command		
	Change over	Invert current state (ON-OFF-ON etc.		
	With object type = priority 2 bit			
		Function	Value	
	no priority	Priority inactive		
		(no control)	U (UUbin)	
	Priority ON	Priority ON	3 (11)	
		(control: enable, on)	J(ITUM)	
	Priority OFF	Priority OFF	2 (10 <sub>bin</sub> )	
		(control: disable, off)	= (100000)	
	With object type = value 0- 255			
	0-255 Any value between 0 and 2 sent		55 can be	
	With object type = percentage value 1 hyte			
	0- <b>100%</b>	Any percentage value between 0 and 100% can be sent.		
Send if	по	Send if no voltage is presen	t at the	
input = 0	yes	input?		
Telegram	See above: Same object type as	s Send if input = 1		
Send cyclically	по	When should cyclical sending take place?t = 1The cycle time is set on the main parameter page of the channel.		
	yes, always			
	only if input = 1			
	Only if input = 0			
Response after restoration of the bus	none	Do not send.		
sunnly	undate (immediately)	Send undate teleoram imm	ediately or	
	undate (after 5 s)	with delay		
	undate (after 10 s)			
	undate (after 15 s)			
Resnanse when		The block function is ineffective with		
setting the block		this telegram.		
	J			


Designation	Values	Description
	no response	Do not respond when the block is set.
	as with input = 1	Respond as with rising edge.
	as with input = 0	Respond as with falling edge.
Response when the block is cancelled	no response	Do not respond when the block is cancelled.
	update	Send update telegram.

 $igid{black}$  If a channel is blocked, no telegrams will be sent cyclically.

#### 7.13.2 Configuration options parameter page, Push button function

Designation	Values	Description
Function	Switch	Desired use.
	Push button	
	Dimming	
	Blinds	
Debounce time	30 ms, <b>50 ms</b> , 80 ms, 100 ms, 200 ms, 1 s, 5 s, 10 s	In order to avoid disruptive switching due to bouncing of the contact connected to the input, the new
		status of the input is only accepted
		after a delay time.
		Larger values ( $\geq 1$ s) can be used as a switch-on delay
Connected push	NO contact	Set the type of connected contact.
button	Opening contact	
Long button push	<b>300 ms</b> , 400 ms, 500 ms, 600	Serves to clearly differentiate
starting at	ms, 700 ms, 800 ms,	between long and short button push.
	900 ms, 1 s	If the button is pressed for at least as
		long as the set time, then a long
	200	button push will be registered.
TIME FOF DOUDIE-CIICK	<b>300 ms</b> , 400 ms, 500 ms, 600	Serves to differentiate between a
	1115, 700 1115, 800 1115, 900 mc 1 c	Time period in which the second click
	900 ms, 1 s	
Cycle time for sending	every min	Common cycle time for all 2 output
cvclically	every 2 min	objects of the channel.
-)	every 3 min	
	every 30 min	
	every 45 min	
	every 60 min	
How many telegrams	one telegram	Each channel has 2 output objects
are to be sent	two telegrams	and can thus send up to 2 different
		telegrams.
Activate block function	по	No block function.
	J	



Designation	Values	Description
	yes	Show parameters for the block
		function.
Block telegram	Block with ON telegram	0 = cancel block 1 = block
	Block with OFF telegram	0 = block 1 = cancel block

#### 7.13.2.1 Push button object 1,2 parameter page

Designation	Values	Description	
Object type	Switching (1 bit)	Telegram type for this object.	
	Priority (2 bit)		
	<i>Value 0-255</i>		
	Percentage value (1 byte)		
Send after short	do not send	Respond to short button push?	
operation	Send telegram		
Telegram	With object type = switching		
	1 bit		
	On	Send switch-on command	
	OFF	Send switch-off command	
	Change over	Invert current state (ON-OFF-C	IN etc.)
	With object type = priority		
	2 bit		1
		Function	Value
	no priority	Priority inactive	
		(no control)	0 (000007
	Priority ON	Priority ON	3 (11 <sub>bin</sub> )
		(control: enable, on)	J(TIUNI)
	Priority OFF	Priority OFF	2 (10 <sub>bin</sub> )
		(control: disable, off)	2 (10000)
	With object type = value 0-255		
	<i>0-255</i>	Any value between 0 and 255 sent.	can be
	With object type = percentage		
	n- <b>100%</b>	Any nercentage value between	() and
		100% can be sent	
Send after Innn	da nat send	Respond to long button push?	
operation	Send telearam		
Telegram	See above: Same object type as	with short operation.	
Send after double-click	do not send	Respond to double-click?	
	Send telearam		
Telegram	See above: Same object type as	with short operation	
	Dee above. Jame object type as		
Send cyclically	no	The cycle time is set on the ma	in

Designation	Values	Description
Response after	none	Do not send.
restoration of the bus		
supply	as with short (immediately)	Send update telegram immediately or
	as with short (after 5 s)	with delay.
	as with short (after 10 s)	The value to be sent depends on the
	as with short (after 15 s)	value configured for long button push,
	as with long (immediately)	short button push or double-click.
	as with long (after 5 s)	
	as with long (after 10 s)	
	as with long (after 15 s)	
	as with double-click	
	(immediately)	
	as with double-click (after 5 s)	
	as with double-click (after 10	
	<i>S)</i>	
	as with double-click (after 15	
Posoonso when	3/	The block function is inoffective with this
setting the block	Ignore block	telearam
Setting the block		
	no response	Do not respond when the block is set.
	as with short	Respond as with a short button push.
	as with long	Respond as with a long button push.
	as with double-click	Respond as with a double-click
Response when the	no response	Do not respond when the block is
, block is cancelled		cancelled.
	as with short	Respond as with a short button push.
	as with long	Respond as with a long button push.
	as with double-click	Respond as with a double-click



#### 7.13.3 Configuration options parameter page, Dimming function

Designation	Values	Description
Function	Switch	The input controls a dimming
	Push button	actuator.
	Dimming	
	Blinds	
Debounce time	30 ms, <b>50 ms</b> , 80 ms, 100 ms,	In order to avoid disruptive switching
	200 ms, 1 s, 5 s, 10 s	due to bouncing of the contact
		connected to the input, the new
		status of the input is only accepted
		after a delay time.
		Larger values (≥ 1 s) can be used as a switch-on delay.
Activate block function	по	No block function.
	yes	Show <b>Block function</b> parameter page.
Block telegram	Block with ON telegram	0 = cancel block
		1 = block
	Block with OFF telegram	0 = block
		1 = cancel block
Long button push	<b>300 ms</b> , 400 ms, 500 ms, 600	Serves to clearly differentiate
starting at	ms, 700 ms, 800 ms,	between long and short button push.
	900 ms, 1 s	If the button is pressed for at least as
		long as the set time, then a long
Double click additional		No double, click function
function		
	yes	The <b>Double-click</b> parameter page is
		displayed.
Time for double-click	<b>300 ms</b> , 400 ms, 500 ms, 600	Serves to differentiate between a
	ms, 700 ms, 800 ms,	double-click and 2 single clicks.
	900 ms, 1 s	Time period in which the second click
		must begin, in order to recognise a
		double-click.



#### 7.13.3.1 Dimming parameter page

Designation	Values	Description
Response to		The input distinguishes between a
long/short		long and a short button push, and can
-		thus carry out 2 functions.
	One button operation	The dimmer is operated with a single
		push button.
		Short button push = $ON/OFF$
		Long button push
		= brighter/darker
		release = stop
		With the other variants, the dimmer is
		operated using 2 buttons (rocker).
	brighter/On	Short button push = ON
		Long button push = brighter
		Release = stop
	brighter/change over	Short button push
		= ON/OFF
		Long button push = brighter
		Release = stop
	darker/Off	Short button push = $OFF$
		Long button push = darker
		Release = stop
	darkar/change over	Short button push
	barker, enange over	
		l ong button nush = darker
		Release = stop
Increment for		With a long button push, the dimming
dimmina <sup>11</sup>		value is:
5		
		Increased (or decreased) until the
		button is released.
	100%	Increased by the selected value
	50%	(or reduced)
	25%	
	12.5%	
	6%	
	3%	
	1.5%	
Response after	none	Do not respond.
restoration of the bus		
supply	Un	Switch on dimmer

<sup>11</sup> Not used with one button operation.



Designation	Values	Description
	Off	Switch off dimmer
	after 5 s On	Switch on dimmer with delay
	after 10 s On	
	after 15 s On	
	after 5 s Off	Switch off dimmer with delay
	after 10 s Off	
	after 15 s Off	
Response when	Ignore block	The block function is ineffective with
setting the block		this telegram.
	no response	Do not respond when the block is set.
	Un	Switch on dimmer
	OFF	Switch off dimmer
Response when the	no response	Do not respond when the block is
DIULK IS LAIILEIIEU		
	0n	Switch on dimmer
	Off	Switch off dimmer

#### 7.13.3.2 Double-click parameter page

Designation	Values	Description	
Object type	Switching (1 bit)	Telegram type for this obj	ect.
	Priority (2 bit)		
	Value 0-255		
	Percentage value (1 byte)		
Telegram	With object type = switching		
	<u>n</u>	Send switch-on command	
	Off	Send switch-off command	
	Change over	Invert current state (ON-O	FF-ON
	With object type - origrity 2 hit		
		Function	Value
	no oriority	Princity inactive	Volue
		(no control)	0 (00 <sub>bin</sub> )
	Priority ON	Priority ON	2(11)
		(control: enable, on)	3 (  bin)
	Priority OFF	Priority OFF	2 (10)
		(control: disable, off)	
	With object type = value 0-255		
	<b>0</b> -255	Any value between 0 and	255 can
		be sent.	
	With object type = percentage	tage	
	1 byte		
	<b>U</b> -100%	and 100% can be sent.	ween u
Send cyclically	do not send cyclically	How often should it be res	sent?
	every min		
	every 2 min		
	every 3 min		
	 avagy / E min		
	every 45 min		
Rosnonso after		Do not send	
restoration of the bus		Do not sena.	
supply	as with double-click	Send update telegram imr	nediately
	(immediately)	or with delay.	
	as with double-click (after 5 s)	The value to be sent depe	nds on the
	as with double-click (after TU's)	value configured for doubl	ie-ciick.
	as with double-click (after 15 s)	<b>T</b> I II I C II I C C	1
setting the block	Ignore block	The block function is ineffective with this telegram.	
	no response	Do not respond when the set.	block is
	as with double-click	Respond as with a double-	-click.
Response when the	no response	Do not respond when the	block is
block is cancelled		cancelled.	
	]		



Designation	Values	Description
	as with double-click	Respond as with a double-click.

#### 7.13.4 Configuration options parameter page, Blinds function

Designation	Values	Description
Function	Switch	The input controls a blinds actuator.
	Push button	
	Dimming	
	Blinds	
Debounce time	30 ms, <b>50 ms</b> , 80 ms, 100 ms,	In order to avoid disruptive switching
	200 ms, 1 s, 5 s, 10 s	due to bouncing of the contact
		connected to the input, the new
		status of the input is only accepted
		after a delay time.
		Larger values ( $\geq 1$ s) can be used as a
	<b></b>	switch-on delay.
Long button push	<b>300 ms</b> , 400 ms, 500 ms,	Serves to clearly differentiate
starting at	600 ms, 700 ms, 800 ms,	between long and short button push.
	900 ms, 1 s	If the button is pressed for at least as
		button ouch will be societored
Double click additional		No double, click function
	110	
	1/85	The <b>Double-click</b> parameter page is
	<i>yes</i>	displayed
Time for double-click	<b>300 ms</b> . 400 ms. 500 ms.	Serves to differentiate between a
	600 ms, 700 ms, 800 ms,	double-click and 2 single clicks.
	900 ms, 1 s	Time period in which the second click
		must begin, in order to recognise a
		double-click.
Activate block function	по	No block function.
	yes	Display Block function parameter
		page.
Block telegram	Block with ON telegram	0 = cancel block
		1 = block
	Block with OFF telegram	0 = block
		1 = cancel block



#### 7.13.4.1 Blinds parameter page

Designation	Values	Description
Operation		The input distinguishes between a
		long and a short button push, and can
		thus carry out 2 functions.
	One button operation	The blinds are operated with a single
		button.
		Short button push = step.
		Long button push = move.
	Denve	Chart hutton ouch stop
	DOWN	Short button push = step.
		Long button push = lower.
	Un	Short button push = step
	- /-	Long button push = raise.
Movement is stonned	releasing the hutton	How is the stop command to be
bv	short operation	triagered?
Response after	none	Do not respond.
, restoration of the bus		
supply	Up	Raise blinds
	Down	Lower blinds
	after 5 s Up	Raise blinds
	after 10 s Up	with delay
	after 15 s Up	
		Lower blinds with delay
	after TU'S DOWN	
Pospopso when	lanara black	The block function is ineffective with
setting the block		this telegram
Setting the block		
	ηο response	Do not respond when the block is set.
	Up	Raise blinds
	Down	Lower blinds
Response when the	no response	Do not respond when the block is
block is cancelled		cancelled.
	Up	Raise blinds
	Down	Lower blinds



#### 7.13.4.2 Double-click parameter page

Designation	Values	Description	
Object type	Switching (1 bit)	Telegram type for this objec	:t.
	Priority (2 bit)		
	Value 0-255		
	Percentage value (1 byte)		
	Height % + slat %		
Telegram	With object type = switching 1 hit		
	On	Send switch-on command	
	Off	Send switch-off command	
	Change over	Invert current state (ON-OFF	-ON etc.)
	With object type = priority		011 0001
	2 bit		
		Function	Value
	no priority	Priority inactive	0 (00 )
		(no control)	U (UUbin)
	Priority ON	Priority ON	2/11
	-	(control: enable, on)	3 (    bin)
	Priority OFF	Priority OFF	2(10)
		(control: disable, off)	Z (TUbin)
	<i>With object type = value 0- 255</i>		
	<b>0</b> -255	Any value between 0 and 25	55 can be
		sent.	
	With object type = percentage		
	Value		
	1 byte		
	<b>U</b> -100%	100% can be sent.	
	With object type = height % + slat %		
		Upon double-click 2 telegra	ms are
		sent simultaneously:	
	Height <b>0</b> -100%	Desired height of blinds	
	Slat <b>0</b> -100%	Desired slat position.	
Send cyclically	do not send cyclically	How often should it be rese	nt?
	every min		
	every 2 min		
	every 3 min		
	every 45 min		
Resnanse after		Do not send	
restoration of the bus	none	bo not sena.	
supply	as with double-click	Send update telegram imme	ediately or
	(immediately)	with delay.	-
	as with double-click (after 5 s)	The value to be sent depend	ds on the
	as with double-click (after 10	value configured for double	-click.
	5)		
	as with double-click (after 15		
	s)		



Designation	Values	Description
Response when setting the block	Ignore block	The block function is ineffective with this telegram.
	no response	Do not respond when the block is set.
	as with double-click	Respond as with a double-click.
Response when the block is cancelled	no response	Do not respond when the block is cancelled.
	as with double-click	Respond as with a double-click.



## 8 Operation

## 8.1 Manual operation with push buttons

The detector can be overridden by using push buttons or other higher-level commands. As push buttons, either external push buttons or the integrated push button can be used for lighting control. It is important to know that if the integrated push button is used for lighting control, no separate push button input objects are needed. If external push buttons are included, separate push button input objects are available.

The manual operation only affects the light outputs. The HVAC, room monitoring and brightness outputs remain unaffected by manual operation.

The following examples in chapter **Operation** refer to the use with external push-buttons. If the integrated push button is used, the input objects are not required. However, the function is always the same.

## 8.2 Manual operation (external push button) via switching function without dimmable lighting

If the lighting is operated manually with *Light function* = *Switching light* (external push button), the detector shows the following behaviour:

Push button operation	Response of lighting/detector
ON telegram	The lighting is switched on with an ON telegram on object <i>C1</i> or <i>C2 Light input – Switching external push button</i> (obj. 2 or 29). The lighting remains switched on for 30 minutes if the room is occupied. Light measurement is deactivated. The light measurement is reactivated after the 30 minutes. An OFF telegram is sent in case of sufficient brightness. If the room is vacated before the 30 minutes have expired, the light will be switched off normally after the completion of the set time delay.
OFF telegram	The lighting is switched off with an OFF telegram on object <i>C1</i> or <i>C2 Light input – Switching external push button</i> (obj. 2 or 29). The lighting remains switched off while the room is occupied. The detector returns to the normal switching mode after the room is vacated and the time delay has expired.

## 8.3 Manual operation (external push button) via switching function with dimmable lighting

If the lighting is operated manually via the *Light function* = *Switching light* and *Lighting dimmable in switching mode* = yes, the detector will show the following behaviour:

Push button operation	Response of lighting/detector
ON telegram	The lighting is switched on with an ON telegram on object <i>C1</i> or <i>C2 Light input – Switching external push button</i> (obj. 2 or 29). The lighting remains switched on for 30 minutes if the room is occupied. Light measurement is deactivated. The light measurement is reactivated after the 30 minutes. An OFF telegram is sent in case of sufficient brightness. If the room is vacated before the 30 minutes have expired, the light will be switched off normally after the completion of the set time delay.
Dimming telegram (4 bit)	The lighting is dimmed with a dimming telegram on object <i>C1</i> or <i>C2 Light input – External button brighter/darker</i> (obj. 4 or 31). The lighting remains at the set dimming value for the configured time <i>Duration of manual override</i> .
Value telegram (1 byte)	The lighting is dimmed with a value telegram on object <i>C1</i> or <i>C2</i> <i>Light input</i> – <i>Send value external push button</i> (obj. 6 or 33). The lighting remains at the transmitted value while the room is occupied. The detector returns to the normal switching mode after the room is vacated and the time delay has expired.
OFF telegram	The lighting is switched off with an OFF telegram on object <i>C1</i> or <i>C2 Light input – Switching external push button</i> (obj. 2 or 29). The lighting remains switched off while the room is occupied. The detector returns to the normal switching mode after the room is vacated and the time delay has expired.

## 8.4 Manual operation (external push button) with constant lighting control function

If the lighting is operated manually with *Light function* = *Constant lighting control*, the detector shows the following behaviour:

Push button operation	Response of lighting/detector
ON telegram	The lighting is switched on with an ON telegram on object $C1$ or $C2$ Light input – Switching external push button (obj. 2 or 29). The constant lighting control is activated. The detector controls the lighting depending on brightness. The two channels C1/C2 are always switched on together.
Dimming telegram (4 bit)	The lighting is dimmed with a dimming telegram on object <i>C1</i> or <i>C2 Light input – External button brighter/darker</i> (obj. 4 or 31). <i>school:</i> Constant lighting control is temporarily interrupted by manual dimming. The setpoint value remains unchanged. office: Constant lighting control remains active temporarily after manual dimming to the current brightness value as the new setpoint value. After the time delay has expired, the originally configured set point value will be restored.
Value telegram (1 byte)	The lighting is dimmed with a value telegram on object <i>C1</i> or <i>C2</i> <i>Light input</i> – <i>Send value external push button</i> (obj. 6 or 33). The lighting remains at the transmitted value while the room is occupied. The detector returns to normal control operation after the room is vacated and after expiry of the time delay.
OFF telegram	The lighting is switched off with an OFF telegram on object <i>C1</i> or <i>C2 Light input – Switching external push button</i> (obj. 2 or 29). The lighting remains switched off while the room is occupied. The detector returns to normal control operation after the room is vacated and after expiry of the time delay.

## 8.5 Manual operation (external push button) using the constant lighting control function without influence of presence

If the lighting is operated manually with *Light function* = *Constant lighting control without influence of presence*, the detector shows the following behaviour:

Push button operation	Response of lighting/detector
ON telegram	The lighting is switched on with an ON telegram on object $C1$ or $C2$ Light input – Switching external push button (obj. 2 or 29). The constant lighting control is activated. The detector controls the lighting depending on brightness. The two channels C1/C2 are always switched on together.
Dimming telegram (4 bit)	The lighting is dimmed with a dimming telegram on object <i>C1</i> or <i>C2 Light input – External button brighter/darker</i> (obj. 4 or 31). <i>school:</i> Constant lighting control is interrupted by manual dimming until the controller is activated again via object <i>C1, C2 light constant lighting control – activate/deactivate</i> (obj. 39) or <i>External scene – receive</i> (obj. 47). The setpoint value remains unchanged. The setpoint value remains unchanged. office: Constant lighting control remains active as the new setpoint after manual dimming to the current brightness value. When deactivating the controller with object <i>C1, C2 light constant lighting control – activate/deactivate</i> (obj. 39) or <i>External scene – receive</i> (obj. 47). The setpoint value remains unchanged.
Value telegram (1 byte)	The lighting is dimmed with a value telegram on object <i>C1</i> or <i>C2</i> <i>Light input – Send value external push button</i> (obj. 6 or 33). The lighting remains at the transmitted value until control is activated via object <i>C1, C2 light constant lighting control –</i> <i>activate/deactivate</i> (obj. 39) or <i>External scene – receive</i> (obj. 47).
OFF telegram	The lighting is switched off with an OFF telegram on object <i>C1</i> or <i>C2 Light input – Switching external push button</i> (obj. 2 or 29). The lighting remains switched off until control is activated via object <i>C1, C2 light constant lighting control – activate/deactivate</i> (obj. 39) or <i>External scene – receive</i> (obj. 47).



## 8.6 Manual operation (external push button) using two light outputs C1, C2

A separate push button with separate group address is used for each of the two lighting channels for manual override when the two lighting channels C1, C2 are used. It is also possible to use the integrated push button I1 for lighting control. To do this, *Function = Control lighting channels C1 and C2 directly* must be selected. In this case, no separate group addresses are needed because the objects are already internally linked.

Each of the two lighting channels C1, C2, can be switched on or off separately with *Light* function = Switching light.

With *Light function* = *Constant lighting control* both channels C1, C2 always switch on, as soon as one of the two push buttons is pressed. Important: It is not possible to switch on just one of the two lighting groups. On the other hand, each channel can be switched off separately when using constant lighting control.

Channels C1, C2 Light can be dimmed separately.



## 9 Parallel switching

In larger rooms, several detectors can be connected in parallel. This extends the overall presence detection area.

## 9.1 Master/Slave parallel switching

A "Master in parallel switching" can be connected to several "Slaves". For this purpose, the trigger outputs of the Slaves are linked with the trigger input of the Master. The Slaves only provide the presence information from their detection area. The Master performs the brightness measurement and the administration of all parameter settings.



## 9.2 Master/Master parallel switching

Several "Masters in parallel switching" can be linked with each other. Presence detection is completed jointly, while light measurement, parameter settings and lighting control are individually processed by each Master. This results in several light outputs with their own light measurement but with joint presence detection.



## 9.3 Telegram load when using parallel switching

In parallel switching, each Master in parallel switching and each Slave sends a telegram up to every 5 seconds, as long as a person is in the detection area. The interval between two telegrams can be increased to 5 minutes, to reduce the telegram load. By default, the cycle time is 30 s.

Please note that the time delay can never be shorter than the interval between two telegrams, in order to prevent unintentional switch off.

Parallel switching is compatible with all Theben KNX detectors. This means that detectors with a common trigger object (trigger input/output) can also be linked to each other with the trigger input object or with the trigger output object.



# 10 Brightness switching value/brightness setpoint value

## 10.1 Setting the brightness switching/setpoint value

The brightness switching/setpoint value defines the minimum desired brightness. The currently prevailing brightness is measured underneath the detector. If the prevailing brightness is below the setpoint, the light is switched on if a presence is detected.

The room correction factor is a measurement for the difference of the brightness measurement at the wall and on the floor.

The brightness measurement value at the wall is influenced by the installation location, incidence of light, position of the sun, weather conditions, the reflection properties of the room, and the furniture.

The room correction factor allows the brightness measurement taken by the detector to be adapted to the conditions in the room. In this way, the brightness value is scaled to the lux meter value ① measured on the surface below the presence detector.

See parameter Room correction factor.



Brightness value at the wall

Room correction factor = ------

Brightness value on the floor



### 10.2 Calibration of brightness measurement

#### Using "theSenda B" app remote control and "theSenda Plug" app:

- Connect "theSenda B" remote control with the corresponding "theSenda Plug" app.
- > Select the appropriate detector type and load the parameter set.
- Select the parameter <Brightness measurement value C1>.

#### 1. Using the theSenda B remote control

- Set up the theSenda B according to the drawing, and move a few steps away from the measurement location, so the lux measurement will not be influenced.
- Press OK.
   A new window with the measured brightness measurement value is shown. If you would like to apply this value.
- Press OK.
- > Important: Press the send button ( $\bigcirc$ ). After this, the brightness measurement is calibrated.

#### 2. Using the lux meter

- > Set up or align the lux meter according to the drawing and read the lux value.
- Press "Enter" in the app.
- $\succ$   $\rightarrow$  A new window opens.
- Enter the lux value and press OK.
  - $\rightarrow$  The brightness measurement value appears in the display.
- Important: Press the send button (
   After this, the brightness measurement is calibrated.
   The room correction factor will be calculated automatically. Values between 0.05 and 2.0 are permitted. Calculated or entered values outside the permitted range are automatically set to the appropriate limit value.
  - $\rightarrow$  The calculated room correction factor will be adopted.

As an alternative, calibration of brightness measurement can also be carried out via the ETS. Prerequisite is that parameter *Set brightness measurement value via bus* has been set to *yes.* The measured lux value is transmitted to the detector via object 18 (brightness measurement value C1).

The room correction factor is calculated from this automatically. Values between 0.05 and 2.0 are permitted. Calculated values outside the permitted range will automatically be set to the appropriate limit value.

The calculated room correction factor will be applied immediately. For monitoring purposes, the room correction factor can be queried via the object 19.

<b>()</b>	The standard value of the room correction factor is 0.3 and is suitable for most
	applications.

The sensitivity of the light sensor to changes in brightness is influenced by the change of the room correction factor.



## 11 Aura effect

With the aura effect function, the light follows the users based on the area they are in. The surrounding areas are dimmed up to a set orientation light value. This guarantees better orientation and greater safety. If the person in the room moves, the light accompanies this person like an aura.

Example - corridor:



Trigger objects are available for sending and receiving the motion status:

Object 62, aura effect output, send motion status Object 63, aura effect input, receive motion status

They can be linked up to adjacent areas. As soon as an aura signal is received and no motion has been detected in this area, the lighting channels in these areas will go to the set aura dimming value.

An example of the aura effect with the required object links and parameter settings can be found in chapter **Application examples**.



## 12 Test modes

The theMura P180 KNX has two test modes:

- Test mode presence
- Test mode light

## 12.1 Test mode presence

Test mode presence serves to test presence detection and parallel switching.

Activate	<ul> <li>Control command test presence "ON" with "theSenda Plug" app or installation remote control "theSenda P" button ☑</li> <li>ON telegram via bus object 75. Test mode presence can be activated any time.</li> </ul>
End	<ul> <li>With subsequent restart: <ul> <li>Control command test presence "OFF" with the "theSenda Plug" app</li> <li>OFF telegram via bus object 75.</li> <li>Mains failure and thus power up.</li> <li>Automatically according to the time set in the ETS, parameter Activation of test mode</li> <li>Control command restart with "theSenda Plug" app</li> <li>Reset with theSenda P button <sup>(5)</sup>.</li> </ul> </li> <li>Without restart: <ul> <li>Activation of light test with the "theSenda Plug" app</li> </ul> </li> </ul>

Display LED	Description
Status of	
channels	
On	When motion occurs, the LED goes on and channels C1, C2 switch on.
Off	After the motion stops, the LED is off and channels C1, C2 switch off after
	approx. 10 s.

#### Test response

- Deactivated brightness measurement, light output does not respond to brightness.
- The detector responds as in configuration type fully automatic device, even if semiautomatic is set.
- Configuration type Light changes to Switching if the configuration type Light is set to Contant lighting control. The light is not controlled.
- Light "On" with motion; light "Off" with absence of motion.
- Channels C1 and C2 Light have a fixed time delay of 10 s.
- Channels C4, C5 HVAC and C6 room monitoring respond unchanged as in normal operation.
- Acoustic sensor deactivated.



#### Commands and adjustable parameters

In test mode presence, the following commands are possible with the "theSenda Plug" app:

- End presence test.
- Activate light test.
- Change detection sensitivity.

The selected detection sensitivity (level  $1 \dots 3$ ) is not changed when activating test mode presence. The sensitivity can be adjusted during the test, and will remain unchanged after a restart. The detector performs a restart after the end of the test mode.

### 12.2 Test mode light

Test mode light is used to check the brightness switching/setpoint value (brightness threshold).

Activate	<ul> <li>Control command test light "ON" with the "theSenda Plug" app.</li> <li>ON telegram via bus object 76. The light test mode can be activated anytime.</li> </ul>
End	<ul> <li>With subsequent restart: <ul> <li>Control command test light "OFF" with the "theSenda Plug" app</li> <li>OFF telegram via bus object 76.</li> <li>Mains failure and thus power up.</li> <li>Automatically according to the time set in the ETS, parameter Activation of test mode</li> <li>Control command restart with "theSenda Plug" app</li> <li>Reset with theSenda P butt </li> </ul> </li> <li>Without restart: <ul> <li>Activation of presence test with the "theSenda Plug" app</li> </ul> </li> </ul>

Display LED	Description
Status of	
channels	
Flashing, 5 s	The LED flashes as long as test mode light is active.
0n/0.3 s Off	

#### Test response

The detector responds 100% as in normal operating mode, only the response to bright/dark is faster. This allows the brightness threshold and also the adaptive behaviour to be tested.

All selected functions and parameters remain unchanged.

#### Commands and adjustable parameters

In test mode light, the following commands are possible with the "theSenda Plug" app:

- End light test.
- Brightness setpoint value of channel C1 Light
- Activate presence test
- Brightness measurement value C1



The detector performs a restart after the end of test mode light.

igcup Do not use a torch to switch the detector. The detector will teach in this and thereby distort the adaptive light thresholds and hysteresis values. To simulate the behaviour, ideally the area below in front of the detector is illuminated or the blinds are operated. For a new attempt, activate test mode light again.



## 13 Setting the device to factory setting

The detector is supplied with a factory setting. This basic setting can be restored.

- > Set the potentiometer **MODE** to the right stop (**on**).
- Push the integrated push button. The button cover does not necessarily have to be fitted for this. At the same time, switch on the bus voltage.
- > Release the push button after a few seconds.
- > The basic settings are adopted again.
- > Set the potentiometer **MODE** to **off**.



## 14 User remote control theSenda S

See also theSenda S operating instructions.

## 14.1 Performance characteristics of theSenda S

theSenda S user remote control makes it easy to switch and dim lighting using theMura P180 KNX presence detector. theSenda S has two channels for controlling lighting groups, blinds or external channels with switching and dimming. theSenda S also provides the option of saving two different lighting scenarios which can be retrieved anytime at the touch of a button.

## 14.2 Combining the detector and theSenda S

The detector channels and the theSenda S channels are linked via an IR group address. 2 IR group addresses are available for linking.

Operation of a lighting group requires that the IR group address of the presence detector channel and that of theSenda S channel match.

The selection of the IR group addresses enables the separation of neighbouring detectors controlled by the theSenda S user remote control. IR group addresses I and II are allocated permanently to 4 buttons on theSenda S user remote control and cannot be changed. Further information can be found in the operating instructions of theSenda S.





## 14.3 Examples of set IR group addresses

#### 14.3.1 One presence detector, two lighting channels

Description	Using one theSenda S user remote control, two lighting channels are controlled manually by one presence detector.
	Channel C1 Light of the presence detector is controlled by channel 1 of theSenda S.
	Channel C2 Light of the presence detector is controlled by channel 2 of theSenda S.

Devices	theMura P180 KNX (2069655)
	theSenda S (9070911)

Overview		Master	Channel	IR grp.
	addr.			
			Channel C1 Light Channel C2 Light	 

Parameter page	Parameters	Setting
Remote control	Channel C1 Light	/
	Channel C2 Light	//





14.3.2	Two presence	detectors, o	one lighting	channel	each and blinds
--------	--------------	--------------	--------------	---------	-----------------

Description	One lighting channel on each of two presence detectors as well as the blinds channel on one presence detector are controlled manually by a theSenda S user remote control.
	The respective channels C1 Light on the two presence detectors are controlled by channel 1 of theSenda S. As both lighting channels are controlled by the same IR group address, a mutual interaction between the lighting channels is possible. The user remote control must be aimed directly at the appropriate presence detector. Furthermore, the IR signals can be diverted in the room and therefore received by the other presence detector. The blinds are controlled by the Master 2 presence detector via channel 2 of theSenda S. Commands of channel 2 are ignored by Master 1.

Devices	theMura P180 KNX (2069655)
	theSenda S (9070911)



Parameter page	Parameters	Setting
Remote control	Channel C1 Light	/

Parameter page	Parameters	Setting
Remote control	Channel C1 Light	/
	External blinds 2	//



Description	One lighting channel each on two presence detectors is controlled manually by a theSenda S user remote control.
	Lighting channel C1 on the Master 1 presence detector is controlled by channel 1 of theSenda S. Lighting channel C1 on the Master 2 presence detector is controlled by channel 2 of theSenda S.
	The lighting channels of the presence detectors are not influenced mutually by theSenda S commands.

#### 14.3.3 Two presence detectors, two lighting channels

Devices	theMura P180 KNX (2069655)
	theSenda S (9070911)



#### theMura P180 KNX, Master 1:

Parameter page	Parameters	Setting		
Remote control	Channel C1 Light	/		

Parameter page	Parameters	Setting		
Remote control	Channel C1 Light	//		



•	5 5
Description	The lighting channels of two presence detectors are influenced separately by two theSenda S user remote controls.
	Channel C1 Light of Master 1 presence detector is controlled by channel 1 of theSenda S 1.
	Channel C1 Light of Master 2 presence detector is controlled by channel 1 of theSenda S 2. Channel C2 Light of Master 2 presence detector is controlled by channel 2 of theSenda S 2.

14.3.4	I wo presence detectors with one and two internal lighting channels

Devices	theMura P180 KNX (2069655)
	theSenda S (9070911)

Overview	IR grp. addr. addr.	Channel	Channel	IR grp.
	I	Channel C1 Light	Channel C1 Light Channel C2 Light	I II
		Master 1	Master 2	
		a ar Thebox		
		theSenda S 1	theSenda S 2	

Parameter page	Parameters	Setting
Remote control	Channel C1 Light	/

Parameter page	Parameters	Setting
Remote control	Channel C1 Light	/
	Channel C2 Light	//



## 15 User remote control theSenda B

See also theSenda B operating manual.

## 15.1 Performance characteristics of theSenda B

theSenda B user remote control makes it easy to switch and dim lighting using theMura P180 KNX presence detector. theSenda B has three channels for controlling lighting groups, blinds or external channels with switching and dimming. theSenda B also provides the option of saving two different lighting scenarios which can be retrieved anytime at the touch of a button. Together with theSenda B remote control and theSenda Plug app, many Theben presence and motion detectors, as well as theLeda D LED spotlights, can be configured and operated quickly, easily and safely. All remotely controllable presence and motion detectors from Theben come pre-installed. New and revised detector types are updated automatically, ensuring that you always have the latest versions. In this way, you will always be up-to-date.

#### Flexible detector search and configuration

The automatic search takes the installer directly to the corresponding detector. Alternatively, the filter function can be used. What's more, it is possible to search for detectors based on stored parameter sets. All detectors can be programmed with just a few clicks via the intuitive user interface. Comprehensive graphic and text-based help functions as well as animations provide assistance with configuration. Particularly in the case of detectors with an especially large range of functions, such as the DALI presence detectors, theSenda Plug makes configuration much easier and faster.

Parameter sets can be saved and named in a customer-specific way. This makes them easier to reuse, for example in different buildings. The parameter sets can also be created with theSenda Plug in advance, and transferred later, during start-up. For archiving and administration purposes, the parameter sets can be exported, for instance via email.

#### Perfect functional interaction with theSenda B remote control

While the detectors are configured via the theSenda Plug app, the programmed data is transmitted to the respective detector via the theSenda B remote control and infrared. Communication between app and remote control is via Bluetooth. The highlight: theSenda B offers a built-in lux meter which can be used to calibrate the light measurement simply and conveniently. The measured lux values are then transmitted back to theSenda Plug via Bluetooth. The supplied wall and table mount ensures that the remote control is always at hand.



## 15.2 Combining the presence detector and theSenda B

The presence detector channels and the theSenda B channels are linked via an IR group address. 8 IR group addresses are available for linking.

Operation of a lighting group requires that the presence detector channel IR group address and that of theSenda B channel match.

The selection of the IR group addresses enables the separation of neighbouring detectors controlled by the theSenda B user remote control. The IR group addresses on theSenda B user remote control can flexibly be allocated to channels 1 to 3 and scenes 1 + 2. The setting can easily be made via "theSenda Plug", menu "theSenda B". IR group addresses I to VIII are available for selection. It is also possible to allocate several IR group addresses to the channels and scenes. The user remote control theSenda B is delivered with the following factory settings:

- · Channel Light 1: IR group address I
- Channel Light 2: IR group address II
- Channel Light 3: IR group address III
- Scene 1: IR group address I, II and III
- Scene 2: IR group address I, II and III





#### 15.2.1 One presence detector, two lighting channels

Description	Using a theSenda B user remote control, two lighting channels are controlled manually by one presence detector.
	Channel C1 light of the presence detector is controlled by channel 1 of theSenda B. Channel C2 light of the presence detector is controlled by channel 2 of
	theSenda B.

Devices	theMura P180 KNX (2069655)
	theSenda B (9070985 )

Overview		Master	Channel	IR grp.
	addr.			
			Channel C1 Light Channel C2 Light	I II

Parameter page	Parameters	Setting
Remote control	Channel C1 Light	/
	Channel C2 Light	//



15.2.2	Two presence detectors	, one lighting	g channel each and b	linds
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Description	One lighting channel on each of two presence detectors as well as the blinds channel on one presence detector are controlled manually by a theSenda B user remote control.
	The respective channels C1 light on the two presence detectors are controlled by channel 1 of theSenda B. As both lighting channels are controlled by the same IR group address, a mutual interaction between the lighting channels is possible. The user remote control must be aimed directly at the appropriate presence detector. Furthermore, the IR signals can be diverted in the room and therefore received by the other presence detector. The blinds are controlled by the Master 2 presence detector via channel 2 of theSenda B. Commands of channel 2 are ignored by Master 1.

Devices	theMura P180 KNX (2069655)
	theSenda B (9070985 )

Overview	IR grp. addr. addr.	Channel	Channel	IR grp.
	I	Channel C1 Light	Channel C1 Light External blinds 2	 
		Master 1	Master 2	
			Ι	

Parameter page	Parameters	Setting
Remote control	Channel C1 Light	/

Parameter page	Parameters	Setting
Remote control	Channel C1 Light	/
	External blinds 2	//



Description	One lighting channel each on two presence detectors is controlled manually by a theSenda B user remote control.
	Lighting channel C1 on the Master 1 presence detector is controlled by channel 1 of theSenda B. Lighting channel C1 on the Master 2 presence detector is controlled by channel 2 of theSenda B.
	The lighting channels of the presence detectors are not influenced mutually by theSenda B commands.

15.2.5 Two presence detectors, two lighting channels	15.2.3	Two presenc	e detectors,	two lighting	channels
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Devices	theMura P180 KNX (2069655)
	theSenda B (9070985)



Parameter page	Parameters	Setting
Remote control	Channel C1 Light	/

Parameter page	Parameters	Setting
Remote control	Channel C1 Light	//



•	
Description	The lighting channels of two presence detectors are influenced separately by two theSenda B user remote controls.
	Channel C1 light of Master 1 presence detector is controlled by channel 1 of theSenda B 1.
	Channel C1 Light of Master 2 presence detector is controlled by channel 1 of theSenda B 2. Channel C2 Light of Master 2 presence detector is controlled
	by channel 2 of theSenda S $2$ .

Devices	theMura P180 KNX (2069655)
	theSenda B (9070985)

Overview	IR grp. addr. addr.	Channel	Channel	IR grp.
	I	Channel C1 Light	Channel C1 Light Channel C2 Light	 
		Master 1	Master 2	
		$I \xrightarrow{\phi_{1}} \phi$		
		theSenda B 1	theSenda B 2	

Parameter page	Parameters	Setting
Remote control	Channel C1 Light	/

Parameter page	Parameters	Setting
Remote control	Channel C1 Light	/
	Channel C2 Light	//


Description	One lighting channel on each of two presence detectors as well as the blinds channel on one presence detector are controlled manually by the theSenda B user remote control.
	Lighting channel C1 on the Master 1 presence detector is controlled by channel 1 of theSenda B.
	channel 2 of theSenda B. The blinds are controlled by the Master 2 presence detector via channel 3 of theSenda B.
	The lighting channels of the presence detectors and the blinds are not influenced mutually by theSenda B.

# 15.2.5 Two presence detectors, two lighting channels and blinds

Devices	theMura P180 KNX (2069655)
	theSenda B (9070985)

Overview	IR grp. addr. addr.	Channel	Channel	IR grp.
	I	Channel C1 Light	Channel C1 Light External blinds 2	 
		Master 1	Master 2	
			II	

# theMura P180 KNX, Master 1:

Parameter page	Parameters	Setting					
Remote control	Channel C1 Light	/					

# theMura P180 KNX, Master 2:

Parameter page	Parameters	Setting
Remote control	Channel C1 Light	//
	External blinds 2	///



# 16 Update tool

An ETS app is available for the KNX firmware update, which can be downloaded free of charge. For more detailed information on the procedure, please refer to the following document:

https://www.theben.de/knx-update



# 17 Troubleshooting

Fault/error	Cause
Light does not switch on or switches off during presence and darkness	Lux value is set too low; detector set on semi-automatic; light was switched off manually via button or theSenda S/B; person not within detection area; obstruction(s) interrupting detection; time delay set too short
Light stays on with detection of presence despite sufficient brightness	Lux value is set too high; the light was just switched on manually via push button or remote control (wait 30 minutes); detector is in test mode
Light does not switch off, or light switches on spontaneously when no one is present	Wait for time delay (self-learning); thermal sources of interference in the detection area: fan heaters, incandescent lamps/halogen spotlights, moving objects (e.g. curtains hanging in an open window); the start-up phase was not problem-free.
Error flashing (3x per second)	<ul> <li>Error during start-up phase or during operation.</li> <li>Device not functional.</li> </ul>



# 18 Typical applications

These application examples are designed to aid planning and are not to be considered an exhaustive list. They can be supplemented and extended as desired. Standard or customer-defined parameter settings apply for the parameters not listed here.

# 18.1 Presence and brightness-dependent switching of light

The classic function of a presence detector is switching lights on only if a room is occupied and there is insufficient natural daylight. The lighting is automatically switched off if the room is vacated or the amount of daylight increases.

# 18.1.1 Devices

- theMura P180 KNX (2069655)
- RMG 4 U (4930223)

# 18.1.2 Overview



# 18.1.3 Objects and links

Links

No	theMura P180 KNX	No	RMG 4 U	Commont
NO.	Object name/function	INU.	Object name/function	comment
1	C1 Light output/switching	0	RMG 4 U channel C1/switch object	Switching lighting on and off

# 18.1.4 Important parameter settings

# theMura P180 KNX

Parameter page	Parameters	Setting
General	Operating mode	Master
	Master operating mode	Individual switching
	Activate channel C1 light	yes
Channel C1 Light	Light function	Switching light
	Configuration type	Fully automatic device
	Brightness switching value	500 lx (according to customer
		request)
	Lighting time delay	10 min (according to customer
		request)

# RMG 4 U

Parameter page	Parameters	Setting
RMG 4 U channel C1:	Type of basic module	RMG 4 U
configuration options	Function	Switching On/Off
	Activation of function via	Switch object



# 18.2 Presence and brightness-dependent switching of light with two lighting groups in a room

The presence detector switches two lighting groups, one near the window and the second in the interior of the room. The lighting group near the window is switched off by the presence detector before the one in the interior of the room due to the greater amount of daylight (energy saving).

# 18.2.1 Devices

- theMura P180 KNX (2069655)
- RMG 4 U (4930223)

# 18.2.2 Overview



# 18.2.3 Objects and links

Links

Ne	theMura P180 KNX	Na	RMG 4 U	Commont
NO.	Object name/function	NO.	Object name/function	comment
1	C1 Light output/switching	0	RMG 4 U channel C1/switch object	Switching lighting near the window on and off
28	C2 Light output/switching	10	RMG 4 U channel C2/switch object	Switching lighting in the interior of the room on and off



# 18.2.4 Important parameter settings

# theMura P180 KNX

Parameter page	Parameters	Setting
General	Operating mode	Master
	Master operating mode	Individual switching
	Activate channel C1 light	yes
	Activate channel C2 light	yes
Channel C1 Light	Light function	Switching light
	Configuration type	Fully automatic device
	Brightness switching value	500 Ix (according to customer request)
	Lighting time delay	10 min (according to customer request)
Channel C2 Light	Brightness difference to	20% (according to customer
	channel C1	request)

# RMG 4 U

Parameter page	Parameters	Setting
RMG 4 U channel C1:	Type of basic module	RMG 4 U
configuration options	Function	Switching On/Off
	Activation of function via	Switch object
RMG 4 U channel C2:	Copy main parameters from	yes
configuration options	channel C1	

# 18.3 Presence and brightness-dependent switching of lighting, additional control of heating

In addition to presence and daylight-dependent switching of a lighting group, the presence detector also controls the heating control. When motion is detected, the corresponding HVAC operating mode is sent. The output is configured with a switch-on delay. The integrated temperature sensor measures the ambient temperature in order to regulate to the desired setpoint temperature.

# 18.3.1 Devices

- theMura P180 KNX (2069655)
- RMG 4 U (4930223)
- HME 6 T (4930245)
   MIX combination

# 18.3.2 Overview



#### 18.3.3 Objects and links

Links					
No	theMura P180 KNX	No	MIX combination	Commont	
NU.	Object name/function	NU.	Object name/function	comment	
1	C1 Light output/switching	0	RMG 4 U channel C1/switch object	Switching lighting on and off	
24	Temperature value/ Send value	82	EM1 HME 6 T channel H1/ Actual value	Transmission of actual temperature	
50	C4.1 HVAC/ Send HVAC operating mode	83	EM1 HME 6 T channel H1/ Operating mode preselection	Adjustment of the operating mode	



# 18.3.4 Important parameter settings

# theMura P180 KNX

Parameter page	Parameters	Setting	
General	Operating mode	Master	
	Master operating mode	Individual switching	
	Activate channel C1 light	yes	
	Activate channel C4 HVAC	yes	
Channel C1 Light	Light function	Switching light	
	Configuration type	Fully automatic device	
	Brightness switching value	500 lx (according to customer request)	
	Lighting time delay	10 min (according to customer request)	
Channel C4 HVAC	HVAC switch-on delay	according to customer request	
	HVAC time delay	according to customer request	
Channel C4 – presence/objects	Telegram type	HVAC operating mode	

# MIX combination RMG 4 U and extension module HME 6 T

Parameter page	Parameters	Setting			
General	Type of basic module	RMG 4 U			
	Type of 1st Extension module	НМЕ 6 Т			
RMG 4 U channel C1:	Function	Switching On/Off			
configuration options	Activation of function via	Switch object			
HME 6 T channel H1:	Channel function	Heating controller			
configuration options	div. parameters	according to customer request			



# 18.4 Presence and brightness-dependent switching of light, additional manual override via external push button

The presence detector switches the lighting. In addition, the lighting can be switched on and off manually with an external push button.

When the light is switched on via the external push button, the user has 30 minutes of light if the room is occupied before the presence detector takes control again. When the light is switched off via the external push button, the lighting remains switched off as long as the presence detector detects that people are present. The presence detector takes control only after the time delay has elapsed.

It is also possible to operate the presence detector in semi-automatic mode. In this case, the lighting must always be switched on by hand, the detector does not switch on the lighting automatically. The presence detector switches off the lighting as usual if there is sufficient daylight or if the room is unoccupied.

#### 18.4.1 Devices

- theMura P180 KNX (2069655)
- iON 102 (4969232)
- RMG 4 U (4930223)

#### 18.4.2 Overview





# 18.4.3 Objects and links

# Links

No	theMura P180 KNX	No	RMG 4 U	No	iON 102		
	Object name/function		Object name/function		Object name/ Function		
1	C1 Light output/switching	0	RMG 4 U channel C1/switch object				
2	C1 Light input/switching external push button	0	RMG 4 U channel C1/switch object	10	Button T1.1/switching		

#### 18.4.4 Important parameter settings

#### theMura P180 KNX

Parameter page	Parameters	Setting	
General	Operating mode	Master	
	Master operating mode	Individual switching	
	Activate channel C1 light	yes	
Channel C1 Light	Light function	Switching light	
	Configuration type	Fully automatic device	
	Brightness switching value	500 lx (according to customer	
		request)	
	Lighting time delay	10 min (according to customer	
		request)	

#### RMG 4 U

Parameter page	Parameters	Setting		
RMG 4 U channel C1:	Type of basic module	RMG 4 U		
configuration options	Function	Switching On/Off		
	Activation of function via	Switch object		

#### iON 102

Parameter page	Parameters	Setting	
Button	Function	Push button	
T1/configuration			
options			
Push button object 1	Object type	Switching	
	Send after short operation	Send telegram	
	Telegram	Change over	

If the lighting is controlled directly by the integrated push button 11, object 2 is not required. Parameters of integrated push-button I1, see chapter Function Control lighting channel C1, C2 directly: Switching.

# 18.5 Constant lighting control

Presence detectors with constant lighting control control the lighting depending on the natural daylight when people are present in the room. When the amount of daylight decreases, the artificial light is automatically dimmed up, and when the amount of daylight increases, the artificial light is automatically dimmed down and finally switched off. The lighting is automatically dimmed to the standby dimming value if the room is vacated.

# 18.5.1 Devices

- theMura P180 KNX (2069655)
- DALI Gateway S64 KNX (4940301)

# 18.5.2 Overview



# 18.5.3 Objects and links

No.	theMura P180 KNX Object name/function	No.	DALI Gateway S64 KNX Object name/function	Comment
1	C1 Light output/switching	71	G1 switching, / On/Off	
3	C1 Light output/ Brighter/darker	72	G1 Dimming, / Brighter/darker	
5	C1 Light output/ Send value	73	<mark>G1 s</mark> et value, / Value	
7	C1 Light input/ Feedback value	77	G1 status, / Value	

# 18.5.4 Important parameter settings

# theMura P180 KNX

Parameter page	Parameters	Setting
General	Operating mode	Master
	Master operating mode	Individual switching
	Activate channel C1 light	yes
Channel C1 Light	Light function	Constant lighting control
	Configuration type	Fully automatic device
	Brightness setpoint value	500 Ix (according to customer request)
	Lighting time delay	10 min (according to customer request)
Channel C1 Light/detail settings	Light standby time	active

# DALI Gateway S64 KNX

Parameter page	Parameters	Setting	
G1, Operating mode		Normal operation	
	Function of additional object	no object	
	Enabled for panic mode	No	
G1, / behaviour	Switch-on value	100%	
	Switch-on behaviour	Dim to value in 10 seconds	
	Switch-off value	0%	
	Behaviour on value setting	Dim to value in 10 seconds	
	Time for dimming	10 seconds	
	Max. value for dimming	100%	
	Min. value for dimming	0%	
	Min/max values apply to	Dimming object	
	Switch-on via dimming	No	



# 18.6 Constant lighting control, additional manual override via external push button

The presence detector controls the lighting (see application example: constant lighting control). In addition, the lighting can be switched and dimmed manually with an external push button. Dimming via push button ends the control. The presence detector remains at the set dimming value while the room is occupied. When the light is switched off via a push button, the lighting remains switched off as long as the presence detector detects that the room is occupied. Only after the time delay has elapsed, the presence detector takes over control (only for behaviour with manual dimming = school).

It is also possible to operate the presence detector in semi-automatic mode. In this case, the lighting must always be switched on by hand, the detector does not switch on the lighting automatically.

#### 18.6.1 Devices

- theMura P180 KNX (2069655)
- iON 102 (4969232)
- DALI Gateway S64 KNX (4940301)

#### 18.6.2 Overview





# 18.6.3 Objects and links

#### Links

No	theMura P180 KNX	No.	DALI Gateway S64 KNX	No.	iON 2
NO.	Object name/function		Object name/function		Object name Function
1	C1 Light output/switching	71	G1 switching, / On/Off		
2	C1 Light input/switching external push button	71	G1 switching, / On/Off	10	Button T1/switching
3	C1 Light output / Brighter/Darker	72	G1 Dimming, / Brighter/darker		
4	C1 Light input/ External button brighter/darker	72	G1 Dimming, / Brighter/darker	11	Button T1 / Brighter/darker
5	C1 Light output/ Send value	73	G1 set value, / Value		
7	C1 Light input/ Feedback value	77	G1 status, / Value		

# 18.6.4 Important parameter settings

#### theMura P180 KNX

Parameter page	Parameters	Setting
General	Operating mode	Master
	Master operating mode	Individual switching
	Activate channel C1 light yes	
Channel C1 Light	Light function	Constant lighting control
	Configuration type	Fully automatic device
	Brightness setpoint value	500 lx (according to customer
		request)
	Lighting time delay	10 min (according to customer
		request)

# DALI Gateway S64 KNX

Parameter page	Parameters Setting	
G1,	Operating mode	Normal operation
	Function of additional object	no object
	Enabled for panic mode	No
G1, / behaviour	Switch-on value	100%
	Switch-on behaviour	Dim to value in 10 seconds
	Switch-off value	0%
	Behaviour on value setting	Dim to value in 10 seconds
	Time for dimming	10 seconds
	Max. value for dimming	100%
	Min. value for dimming 0%	
	Min/max values apply to Dimming object	
	Switch-on via dimming	No



#### iON 102

Parameter page	Parameters	Setting
Button	Function	Dimming
T1/configuration		
options		
Dimming	Response to long/short	One button operation

If the lighting is controlled directly by the integrated push button I1, object 2 and 4 are not required. Parameters of integrated push-button I1, see chapter Function Control lighting channel C1, C2 directly: Dimming.



# 18.7 Constant lighting control with two lighting groups

The constant light control controls the lighting dependent on natural daylight (see application example **Constant light control**).

The lighting is divided into two lighting groups to make maximum use of the daylight near the window. The two lighting groups are switched on and controlled together.

# 18.7.1 Devices

- theMura P180 KNX (2069655)
- DALI Gateway S64 KNX (4940301)

#### 18.7.2 Overview



# 18.7.3 Objects and links

Links	S			
No.	theMura P180 KNX Object name/function	No.	DALI Gateway S64 KNX Object name/function	Comment
1	C1 Light output/switching	71	G1 switching, / On/Off	
3	C1 Light output/ Brighter/darker	72	G1 Dimming, / Brighter/darker	
5	C1 Light output/ Send value	73	G1 set value, / Value	
7	C1 Light input/ Feedback value	77	G1 status, / Value	
28	C2 Light output/switching	99	G2 switching, / On/Off	
30	C2 Light output/ Brighter/darker	100	G2 Dimming, / Brighter/darker	
32	C2 Light output/ Send value	101	G1 set value, / Value	
33	C2 Light input/ Feedback value	105	G1 status, / Value	



# 18.7.4 Important parameter settings

# theMura P180 KNX

Parameter page	Parameters	Setting	
General	Operating mode	Master	
	Master operating mode	Individual switching	
	Activate channel C1 light	yes	
	Activate channel C2 light	yes	
Channel C1 Light	Light function	Constant lighting control	
	Configuration type	Fully automatic device	
	Brightness setpoint value	500 lx (according to customer request)	
	Lighting time delay	10 min (according to customer request)	
Channel C1	Light standby time	active	
Light/detail settings			
Channel C2 Light	Brightness difference to channel C1	20% (according to customer request)	

# DALI Gateway S64 KNX

Parameter page	Parameters	Setting
G1,	Operating mode	Normal operation
	Function of additional object	no object
	Enabled for panic mode	No
G1, / behaviour	Switch-on value	100%
	Switch-on behaviour	Dim to value in 10 seconds
	Switch-off value	0%
	Behaviour on value setting	Dim to value in 10 seconds
	Time for dimming	10 seconds
	Max. value for dimming	100%
	Min. value for dimming	0%
	Min/max values apply to	Dimming object
	Switch-on via dimming	No
G2,	Operating mode	Normal operation
	Function of additional object	no object
	Enabled for panic mode	No
G2, / behaviour	Switch-on value	100%
	Switch-on behaviour	Dim to value in 10 seconds
	Switch-off value	0%
	Behaviour on value setting	Dim to value in 10 seconds
	Time for dimming	10 seconds
	Max. value for dimming	100%
	Min. value for dimming	0%
	Min/max values apply to	Dimming object
	Switch-on via dimming	No



# 18.8 Master/Slave parallel switching

Several presence detectors can be linked together to provide coverage of large areas such as open-plan offices or corridors. One presence detector is used as a Master, the others as Slaves. The Slaves trigger the Master when motion is detected. All settings, such as delay times and brightness thresholds, are configured in the Master.

The trigger signal acts on the lighting channel and on the HVAC channel of the Master. Master/Slave parallel switching can be used independently of whether the Master switches one or two lighting groups, or operates in constant lighting control.

#### 18.8.1 Devices

- theMura P180 KNX (2069655)
- RMG 4 U (4930223)

#### 18.8.2 Overview



# theben

**(i)** 

Parallel switching is compatible with all Theben KNX detectors. This means that detectors with a common trigger object (trigger input/output) can also be linked to each other with the trigger input object or with the trigger output object.

# 18.8.3 Objects and links

Links

No	theMura P180 KNX	No	RMG 4 U	Commont	
NU.	Object name/function	NU.	Object name/function	Comment	
1	C1 Light output/switching	0	RMG 4 U channel C1/switch object	Switching lighting on and off	

No.	theMura P180 KNX (Master) Object name (function	No.	theMura P180 KNX (Slaves) Object name (function	Comment
61	Parallel switching input/ Trigger input	60	Parallel switching output/ Trigger output	Connection between Master and Slaves

# 18.8.4 Important parameter settings

### theMura P180 KNX (Master)

Parameter page	Parameters	Setting
General	Operating mode	Master
	Master operating mode	Parallel switching
	Activate channel C1 light	yes
Channel C1 Light	nt Light function Switching light	
	Configuration type	Fully automatic device
	Brightness switching value	500 lx (according to customer
		request)
	Lighting time delay	10 min (according to customer
		request)

#### theMura P180 KNX (Slaves)

Parameter page Parameters		Setting			
General	Operating mode	Slave			

# RMG 4 U

Parameter page	Parameters	Setting	
RMG 4 U channel C1:	Type of basic module	RMG 4 U	
configuration options	Function	Switching On/Off	
	Activation of function via	Switch object	



# 18.9 Master/Master parallel switching

To cover larger areas with different lighting conditions, for example open-plan offices, several Master presence detectors are connected to each other.

Each Master operates its lighting group according to its light measurement and settings. They exchange presence among each other. This extends the detection area. It should be noted that each Master can only detect the light switched or controlled by itself.

Master/Master parallel switching can be used independently of whether the Master is configured for switching or constant lighting control.

#### 18.9.1 Devices

- theMura P180 KNX (2069655)
- RMG 4 U (4930223)

# 18.9.2 Overview



Parallel switching is compatible with all Theben KNX detectors. This means that detectors with a common trigger object (trigger input/output) can also be linked to each other with the trigger input object or with the trigger output object.



# 18.9.3 Objects and links

#### Links

No.	theMura P180 KNX Object name/function	No.	RMG 4 U Object name/function	Comment
1	C1 Light output/switching	0	RMG 4 U channel C1/switch object	Switching lighting on and off

No.	theMura P180 KNX Object name/function	No.	theMura P180 KNX Object name/function	Comment
61	Parallel switching input/ Trigger input	60	Parallel switching output/ Trigger output	Connection between Master and Master
60	Parallel switching output/ Trigger output	61	Parallel switching input/ Trigger input	Connection between Master and Master

# 18.9.4 Important parameter settings

# theMura P180 KNX

Parameter page	Parameters	Setting		
General	Operating mode	Master		
	Master operating mode	Parallel switching		
	Activate channel C1 light	yes		
Channel C1 Light	Light function	Switching light		
Configuration type		Fully automatic device		
	Brightness switching value	500 lx (according to customer		
		request)		
Lighting time delay		10 min (according to customer		
		reauest)		

# RMG 4 U

Parameter page	Parameters	Setting		
RMG 4 U channel C1:	Type of basic module	RMG 4 U		
configuration options	Function	Switching On/Off		
	Activation of function via	Switch object		



# 18.10 Aura effect

With the aura effect, the light follows users in the area where they currently are. The lighting in the adjacent detection zones is switched or dimmed to the <Aura dimming value>. It follows an example of 3 presence detectors and 3 lighting groups. Each Master switches one lighting group.

Procedure:

- (1) Make settings at Master A, B and C.
- (2) Assign an individual group address to the aura effect object (Master A, B and C).
- (3) Connect the aura effect objects of the adjacent zones of the individual Master devices. Example: Connect Master A, object 62 with Master B, object 63.

#### 18.10.1 Devices

- theMura P180 KNX (2069655)
- DALI Gateway S64 KNX (4940301)

#### 18.10.2 Overview







# 18.10.3 Objects and links

# Links

No.	theMura P180 KNX / Master A, B, C Object name/function	No.	DALI Gateway S64 KNX Object name/function	Comment
1	C1 Light output/switching	71, 99, 127	Gx switching, / On/Off	
3	C1 Light output / Brighter/Darker	72, 100, 128	Gx dimming, / Brighter/darker	
5	C1 Light output / send value	73, 101, 129	<mark>Gx s</mark> et value, / Value	

# Links <sup>3</sup>

No.	theMura P180 KNX / Master A Object name/function	No.	theMura P180 KNX / Master B Object name/function	Comment		
62	Aura effect output/ Send motion status	63	Aura effect input/ Receive motion status	Object link Master A – Master B		
63	Aura effect input/ Receive motion status	62	Aura effect output/ Send motion status	Object link Master B – Master A		

# Links ③

No.	theMura P180 KNX / Master B Object name/function	No.	theMura P180 KNX/ Master C Object name/function	Comment	
62	Aura effect output/ Send motion status	63	Aura effect input/ Receive motion status	Object link Master B – Master C	
63	Aura effect input/ Receive motion status	62	Aura effect output/ Send motion status	Object link Master C – Master B	

# 18.10.4 Important parameter settings

# theMura P180 KNX

Parameter page	Parameters	Setting
General	Operating mode	Master
	Master operating mode	Aura effect
	Activate channel C1 light	yes
Channel C1 Light	Light function	Switching light
	Configuration type	Fully automatic device
	Brightness switching value	200 Ix (according to customer request)
	Lighting time delay	5 min (according to customer request)
Channel C1	Light standby time	active
Light/detail settings	Standby dimming value	10% (according to customer request)

# DALI Gateway S64 KNX

Parameter page	Parameters	Setting			
Group 13					
Gx,	Operating mode	Normal operation			
	Function of additional object	no object			
	Enabled for panic mode	No			
Gx, / behaviour	Switch-on value	100%			
	Switch-on behaviour	Dim to value in 10 seconds			
	Switch-off value	0%			
	Behaviour on value setting	Dim to value in 10 seconds			
	Time for dimming	10 seconds			
	Max. value for dimming	100%			
	Min. value for dimming	0%			
	Min/max values apply to	Dimming object			
	Switch-on via dimming	No			



# 19 Appendix

# 19.1 Conversion of percentages to hexadecimal and decimal values

Percentage value	0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
Hexadecimal	00	1A	33	4D	66	80	99	B3	CC	E6	FF
Decimal	00	26	51	77	102	128	153	179	204	230	255

All values from 00 to FF hex. (0 to 255 dec.) are valid.





# 20 Contact

Theben AG

Hohenbergstr. 32 72401 Haigerloch GERMANY Phone +49 7474 692-0 Fax +49 7474 692-150

# Hotline

Phone +49 7474 692-369 hotline@theben.de Addresses, telephone numbers, etc. www.theben.de