Motion detector theLuxa P300 KNX

theLuxa P300 KNX	1019610 (white)
theLuxa P300 KNX	1019611 (black)

Contents

1 Contents

2 Functional characteristics

- Motion detector (PIR)
- Automatic lighting control depending on presence and brightness
- Can be integrated into KNX building system technology
- For outdoor use
- For wall and ceiling installation
- Integrated temperature sensor
- For larger, commercial outdoor properties such as administration buildings, hotels, schools, underground car parks and warehouses
- Easy to program with ETS software for KNX
- Adjustable brightness switching value and time delay
- Sensitivity can be reduced
- Area limitation via cover clip
- Mixed light measurement
- Teach-in of current brightness value
- Pulse function
- Test function for checking the detection area
- Installation on flush-mounted box (60 mm) possible
- Single-handed plug-in installation
- Instant start-up possible thanks to presetting
- Protected adjusters
- Spacer frame and corner installation bracket included in the scope of supply

2.1 Operation

2.1.1 Test mode

The test mode is used to test the detection area and to restrict it if necessary.

The test mode can be activated via a telegram (test mode object), or via the time potentiometer (Min).

Perform walking test:
Set the time potentiometer (Min) to test.
The motion detector now only reacts to movements (independent of brightness).
Walk through the detection area at a right angle. After the motion detector has detected a movement, it switches on for 2 s. The LED for test lights up.
Pay attention to the direction of motion during the test.

Figure 1

Important:
If the device has been discharged using ETS, the red LED will remain lit up constantly to report this.

2.2 Important information about unload or reset.

- Any error notification that appears following download can be ignored, provided that the LED remains lit as described above.
- The remote control does not work after downloading the application.
- Following (bus) reset the device initially always sends 0 to the movement object (C1 .. C4). If motion has been detected, 1 is sent immediately.
- Until the first download of an application the device transmits to the following group addresses:

- 15/1/0: Obj. 6 (C1 motion)
- 15/1/1: Obj. 22 (C2 motion)
- 15/1/2: Obj. 38 (C3 motion)
- 15/1/3: Obj. 54 (C4 motion)
- 15/2/0: Obj. 2 (brightness value)
- 15/2/1: Obj. 3 (Temperature value)
- 15/3/0: Obj. 116 (Software version)

3 Technical data

Operating voltage KNX	Bus voltage
Bus current	< 10 mA
Brightness setting range	1 – 3000 lx
Detection angle	300°
Creep under protection	Ø 6 m
Type of installation	Wall and ceiling installation
Lighting time delay	1 s – 60 min.
Type of light measurement	Mixed light measurement
Ambient temperature	-25 °C … +45 °C
Protection class	III
Protection rating	IP 55

4 The “theLuxa P300” application programme

4.1 Selection in the product database

Manufacturer	Theben AG
Product family	Physical sensors
Product type	Motion detector
Program name	theLuxa P300 KNX

The ETS database can be found on our website: www.theben.de/en/downloads_en

Table 1

Number of communication objects:	116
Number of group addresses:	254
Number of associations:	254

4.2 Communication objects

Table 2

No.	Name	Function	Length	Flags			
0	*Time*	*Receive*	3 byte 10.001	C	R	W	-
1	*Time query*	*Send*	1 bit 1.001	C	R	-	T
2	*Brightness value*	*Physical value*	2 byte 9.004	C	R	-	T
3	*Temperature value*	*Physical value*	2 byte 9.001	C	R	-	T
4	*Dismounting*	*Report*	1 bit 1.001	C	R	-	T
5	*Sensitivity*	*Receive*	1 byte 5.004	C	R	W	-
6	*C1 Motion*	*Switching*	1 bit 1.001	C	R	-	T
7	*C1 Dimming*	*Dimming value*	1 byte 5.001	C	R	-	T
8	*C1 Brightness threshold*	*Receive*	2 byte 9.004	C	R	W	-
9	*C1 Brightness threshold*	*Teach in*	1 bit 1.001	C	R	W	-
10	*C1 Alt. Brightness threshold*	*Receive*	2 byte 9.004	C	R	W	-
11	*C1 Alt. Brightness threshold*	*Teach in*	1 bit 1.001	C	R	W	-
12	*C1 Alt. Brightness threshold*	*Selection*	1 bit 1.003	C	R	W	-
13	*C1 Time delay*	*Receive*	2 byte 7.005	C	R	W	-
14	*C1 Alternative time delay*	*Receive*	2 byte 7.005	C	R	W	-
15	*C1 Alternative time delay*	*Selection*	1 bit 1.003	C	R	W	-
16	*C1 Block*	*Block = 0*	1 bit 1.003	C	R	W	-
		Block = 1	1 bit 1.003	C	R	W	-
17	*C1 Perm ON*	*Duration = 0*	1 bit 1.001	C	R	W	-
		Duration = 1	1 bit 1.001	C	R	W	-

Continuation:

No.	Name	Function	Length	Flags			
18	*C1 Parallel switching*	*Send*	1 bit 1.001	C	R	-	T
		Send / Receive	1 bit 1.001	C	R	W	T
19	*C1 Test mode*	*1= active, 0 = not active*	1 bit 1.003	C	R	W	-
20	*C1 External brightness value*	*Receive*	2 byte 9.004	C	R	W	-
21	*C1 Scene*	*Receive*	1 byte 17.001	C	R	W	-
22	*C2 Motion*	*Switching*	1 bit 1.001	C	R	-	T
23	*C2 Dimming*	*Dimming value*	1 byte 5.001	C	R	-	T
24	*C2 Brightness threshold*	*Receive*	2 byte 9.004	C	R	W	-
25	*C2 Brightness threshold*	*Teach in*	1 bit 1.001	C	R	W	-
26	*C2 Alt. Brightness threshold*	*Receive*	2 byte 9.004	C	R	W	-
27	*C2 Alt. Brightness threshold*	*Teach in*	1 bit 1.001	C	R	W	-
28	*C2 Alt. Brightness threshold*	*Selection*	1 bit 1.003	C	R	W	-
29	*C2 Time delay*	*Receive*	2 byte 7.005	C	R	W	-
30	*C2 Alternative time delay*	*Receive*	2 byte 7.005	C	R	W	-
31	*C2 Alternative time delay*	*Selection*	1 bit 1.003	C	R	W	-
32	*C2 Block*	*Block = 0*	1 bit 1.003	C	R	W	-
		Block = 1	1 bit 1.003	C	R	W	-
33	*C2 Perm ON*	*Duration = 0*	1 bit 1.001	C	R	W	-
		Duration = 1	1 bit 1.001	C	R	W	-
34	*C2 Parallel switching*	*Send*	1 bit 1.001	C	R	-	T
		Send / Receive	1 bit 1.001	C	R	W	T
35	*C2 Test mode*	*1= active, 0 = not active*	1 bit 1.003	C	R	W	-

Continuation:

No.	Name	Function	Length	Flags			
36	*C2 External brightness value*	*Receive*	2 byte 9.004	C	R	W	-
37	*C2 Scene*	*Receive*	1 byte 17.001	C	R	W	-
38	*C3 Motion*	*Switching*	1 bit 1.001	C	R	-	T
39	*C3 Dimming*	*Dimming value*	1 byte 5.001	C	R	-	T
40	*C3 Brightness threshold*	*Receive*	2 byte 9.004	C	R	W	-
41	*C3 Brightness threshold*	*Teach in*	1 bit 1.001	C	R	W	-
42	*C3 Alt. Brightness threshold*	*Receive*	2 byte 9.004	C	R	W	-
43	*C3 Alt. Brightness threshold*	*Teach in*	1 bit 1.001	C	R	W	-
44	*C3 Alt. Brightness threshold*	*Selection*	1 bit 1.003	C	R	W	-
45	*C3 Time delay*	*Receive*	2 byte 7.005	C	R	W	-
46	*C3 Alternative time delay*	*Receive*	2 byte 7.005	C	R	W	-
47	*C3 Alternative time delay*	*Selection*	1 bit 1.003	C	R	W	-
48	*C3 Block*	*Block = 0*	1 bit 1.003	C	R	W	-
		Block = 1	1 bit 1.003	C	R	W	-
49	*C3 Perm ON*	*Duration = 0*	1 bit 1.001	C	R	W	-
		Duration = 1	1 bit 1.001	C	R	W	-
50	*C3 Parallel switching*	*Send*	1 bit 1.001	C	R	-	T
		Send / Receive	1 bit 1.001	C	R	W	T
51	*C3 Test mode*	*1= active, 0 = not active*	1 bit 1.003	C	R	W	-
52	*C3 External brightness value*	*Receive*	2 byte 9.004	C	R	W	-
53	*C3 Scene*	*Receive*	1 byte 17.001	C	R	W	-
54	*C4 Motion*	*Switching*	1 bit 1.001	C	R	-	T

Continuation:

No.	Name	Function	Length	Flags			
55	*C4 Dimming*	*Dimming value*	1 byte 5.001	C	R	-	T
56	*C4 Brightness threshold*	*Receive*	2 byte 9.004	C	R	W	-
57	*C4 Brightness threshold*	*Teach in*	1 bit 1.001	C	R	W	-
58	*C4 Alt. Brightness threshold*	*Receive*	2 byte 9.004	C	R	W	-
59	*C4 Alt. Brightness threshold*	*Teach in*	1 bit 1.001	C	R	W	-
60	*C4 Alt. Brightness threshold*	*Selection*	1 bit 1.003	C	R	W	-
61	*C4 Time delay*	*Receive*	2 byte 7.005	C	R	W	-
62	*C4 Alternative time delay*	*Receive*	2 byte 7.005	C	R	W	-
63	*C4 Alternative time delay*	*Selection*	1 bit 1.003	C	R	W	-
64	*C4 Block*	*Block = 0*	1 bit 1.003	C	R	W	-
		Block = 1	1 bit 1.003	C	R	W	-
65	*C4 Perm ON*	*Duration = 0*	1 bit 1.001	C	R	W	-
		Duration = 1	1 bit 1.001	C	R	W	-
66	*C4 Parallel switching*	*Send*	1 bit 1.001	C	R	-	T
		Send / Receive	1 bit 1.001	C	R	W	T
67	*C4 Test mode*	*1= active, 0 = not active*	1 bit 1.003	C	R	W	-
68	*C4 External brightness value*	*Receive*	2 byte 9.004	C	R	W	-
69	*C4 Scene*	*Receive*	1 byte 17.001	C	R	W	-
70	*C5.1 Universal channel*	*Switching*	1 bit 1.001	C	R	-	T
		Priority	2 bit 2.001	C	R	-	T
		Valuator	1 byte 5.010	C	R	-	T

Continuation:

No.	Name	Function	Length	Flags			
71	*C5.2 Universal channel*	*Switching*	1 bit 1.001	C	R	-	T
		Priority	2 bit 2.001	C	R	-	T
		Valuator	1 byte 5.010	C	R	-	T
72	*C5 lock*	*Block = 0*	1 bit 1.003	C	R	W	-
		Block = 1	1 bit 1.003	C	R	W	-
73	*C5 Brightness threshold*	*check*	2 byte 9.004	C	R	-	T
		Specify/check	2 byte 9.004	C	R	W	T
74	*C6.1 Universal channel*	*Switching*	1 bit 1.001	C	R	-	T
		Priority	2 bit 2.001	C	R	-	T
		Valuator	1 byte 5.010	C	R	-	T
75	*C6.2 Universal channel*	*Switching*	1 bit 1.001	C	R	-	T
		Priority	2 bit 2.001	C	R	-	T
		Valuator	1 byte 5.010	C	R	-	T
76	*C6 lock*	*Block = 0*	1 bit 1.003	C	R	W	-
		Block = 1	1 bit 1.003	C	R	W	-
77	*C6 Brightness threshold*	*check*	2 byte 9.004	C	R	-	T
		Specify/check	2 byte 9.004	C	R	W	T

Continuation:

No.	Name	Function	Length	Flags			
78	*C7.1 Universal channel*	*Switching*	1 bit 1.001	C	R	-	T
		Priority	2 bit 2.001	C	R	-	T
		Valuator	1 byte 5.010	C	R	-	T
79	*C7.2 Universal channel*	*Switching*	1 bit 1.001	C	R	-	T
		Priority	2 bit 2.001	C	R	-	T
		Valuator	1 byte 5.010	C	R	-	T
80	*C7 lock*	*Block = 0*	1 bit 1.003	C	R	W	-
		Block = 1	1 bit 1.003	C	R	W	-
81	*C7 Brightness threshold*	*check*	2 byte 9.004	C	R	-	T
		Specify/check	2 byte 9.004	C	R	W	T
82	*C8.1 Universal channel*	*Switching*	1 bit 1.001	C	R	-	T
		Priority	2 bit 2.001	C	R	-	T
		Valuator	1 byte 5.010	C	R	-	T
83	*C8.2 Universal channel*	*Switching*	1 bit 1.001	C	R	-	T
		Priority	2 bit 2.001	C	R	-	T
		Valuator	1 byte 5.010	C	R	-	T
84	*C8 lock*	*Block = 0*	1 bit 1.003	C	R	W	-
		Block = 1	1 bit 1.003	C	R	W	-

Continuation:

No.	Name	Function	Length	Flags			
85	*C8 Brightness threshold*	*check*	2 byte 9.004	C	R	-	T
		Specify/check	2 byte 9.004	C	R	W	T
86	*C9 Logic module*	*Logic input 1 in OR gate*	1 bit 1.002	C	R	W	-
		Logic input 1 in AND gate	1 bit 1.002	C	R	W	-
		Logic input 1 in XOR gate	1 bit 1.002	C	R	W	-
87	*C9 Logic module*	*Logic input 2 in OR gate*	1 bit 1.002	C	R	W	-
		Logic input 2 in AND gate	1 bit 1.002	C	R	W	-
		Logic input 2 in XOR gate	1 bit 1.002	C	R	W	-
88	*C9 Logic module*	*Logic input 3 in OR gate*	1 bit 1.002	C	R	W	-
		Logic input 3 in AND gate	1 bit 1.002	C	R	W	-
89	*C9 Logic module*	*Logic input 4 in OR gate*	1 bit 1.002	C	R	W	-
		Logic input 4 in AND gate	1 bit 1.002	C	R	W	-
90	*C9 Logic module*	*Block = 0*	1 bit 1.003	C	R	W	-
		Block = 1	1 bit 1.003	C	R	W	-
91	*C9. 1 Logic module*	*Switching*	1 bit 1.001	C	R	-	T
		Priority	2 bit 2.001	C	R	-	T
		Valuator	1 byte 5.010	C	R	-	T
92	*C9. 2 Logic module*	*Switching*	1 bit 1.001	C	R	-	T
		Priority	2 bit 2.001	C	R	-	T
		Valuator	1 byte 5.010	C	R	-	T

Continuation:

No.	Name	Function	Length	Flags			
93	*C10 Logic module*	*Logic input 1 in OR gate*	1 bit 1.002	C	R	W	-
		Logic input 1 in AND gate	1 bit 1.002	C	R	W	-
		Logic input 1 in XOR gate	1 bit 1.002	C	R	W	-
94	*C10 Logic module*	*Logic input 2 in OR gate*	1 bit 1.002	C	R	W	-
		Logic input 2 in AND gate	1 bit 1.002	C	R	W	-
		Logic input 2 in XOR gate	1 bit 1.002	C	R	W	-
95	*C10 Logic module*	*Logic input 3 in OR gate*	1 bit 1.002	C	R	W	-
		Logic input 3 in AND gate	1 bit 1.002	C	R	W	-
96	*C10 Logic module*	*Logic input 4 in OR gate*	1 bit 1.002	C	R	W	-
		Logic input 4 in AND gate	1 bit 1.002	C	R	W	-
97	*C10 Logic module*	*Block = 0*	1 bit 1.003	C	R	W	-
		Block = 1	1 bit 1.003	C	R	W	-
98	*C10. 1 Logic module*	*Switching*	1 bit 1.001	C	R	-	T
		Priority	2 bit 2.001	C	R	-	T
		Valuator	1 byte 5.010	C	R	-	T
99	*C10. 2 Logic module*	*Switching*	1 bit 1.001	C	R	-	T
		Priority	2 bit 2.001	C	R	-	T
		Valuator	1 byte 5.010	C	R	-	T
100	*C11 Logic module*	*Logic input 1 in OR gate*	1 bit 1.002	C	R	W	-
		Logic input 1 in AND gate	1 bit 1.002	C	R	W	-
		Logic input 1 in XOR gate	1 bit 1.002	C	R	W	-

Continuation:

No.	Name	Function	Length	Flags			
101	*C11 Logic module*	*Logic input 2 in OR gate*	1 bit 1.002	C	R	W	-
		Logic input 2 in AND gate	1 bit 1.002	C	R	W	-
		Logic input 2 in XOR gate	1 bit 1.002	C	R	W	-
102	*C11 Logic module*	*Logic input 3 in OR gate*	1 bit 1.002	C	R	W	-
		Logic input 3 in AND gate	1 bit 1.002	C	R	W	-
103	*C11 Logic module*	*Logic input 4 in OR gate*	1 bit 1.002	C	R	W	-
		Logic input 4 in AND gate	1 bit 1.002	C	R	W	-
104	*C11 Logic module*	*Block = 0*	1 bit 1.003	C	R	W	-
		Block = 1	1 bit 1.003	C	R	W	-
105	*C11. 1 Logic module*	*Switching*	1 bit 1.001	C	R	-	T
		Priority	2 bit 2.001	C	R	-	T
		Valuator	1 byte 5.010	C	R	-	T
106	*C11. 2 Logic module*	*Switching*	1 bit 1.001	C	R	-	T
		Priority	2 bit 2.001	C	R	-	T
		Valuator	1 byte 5.010	C	R	-	T
107	*C12 Logic module*	*Logic input 1 in OR gate*	1 bit 1.002	C	R	W	-
		Logic input 1 in AND gate	1 bit 1.002	C	R	W	-
		Logic input 1 in XOR gate	1 bit 1.002	C	R	W	-
108	*C12 Logic module*	*Logic input 2 in OR gate*	1 bit 1.002	C	R	W	-
		Logic input 2 in AND gate	1 bit 1.002	C	R	W	-
		Logic input 2 in XOR gate	1 bit 1.002	C	R	W	-

Continuation:

No.	Name	Function	Length	Flags			
109	*C12 Logic module*	*Logic input 3 in OR gate*	1 bit 1.002	C	R	W	-
		Logic input 3 in AND gate	1 bit 1.002	C	R	W	-
110	*C12 Logic module*	*Logic input 4 in OR gate*	1 bit 1.002	C	R	W	-
		Logic input 4 in AND gate	1 bit 1.002	C	R	W	-
111	*C12 Logic module*	*Block = 0*	1 bit 1.003	C	R	W	-
		Block = 1	1 bit 1.003	C	R	W	-
112	*C12. 1 Logic module*	*Switching*	1 bit 1.001	C	R	-	T
		Priority	2 bit 2.001	C	R	-	T
		Valuator	1 byte 5.010	C	R	-	T
113	*C12. 2 Logic module*	*Switching*	1 bit 1.001	C	R	-	T
		Priority	2 bit 2.001	C	R	-	T
		Valuator	1 byte 5.010	C	R	-	T
114	*Remote control button 1*	*Send scene*	1 byte 17.001	C	R	-	T
115	*Remote control button 2*	*Send scene*	1 byte 17.001	C	R	-	T
116	*Software version*	*Send*	14 byte 16.001	C	R	-	T

4.2.1 General objects

- **Object 0** ***"Receive time"***

Receives time from bus for setting the internal real time clock.

- **Object 1** ***"Send time query"***

Object sends time query to bus clock to receive the current time.

- **Object 2** **"Brightness value"**

Sends the current brightness value.

- **Object 3** ***"Temperature value"***

Sends the current temperature value, depending on configuration, in case of a change and/or cyclically.

- **Object 4** ***„Dismounting“***

Permanently sends cyclical OFF telegrams.
The absence of cyclical telegrams might indicate an unauthorised removal of the device.

- **Object 5** ***"Sensitivity"***

Overwrites the parameter as well as the potentiometer setting for the detection sensitivity of the motion sensor.

Low	Medium	High
0..33	34..66	67..100

- **Object 116** ***„Software version“***

For diagnostic purposes only.

Sends the software version of the device after reset or download.

Format: **V**xx.yy

Code	Meaning
xx.yy	Version of the application as hexadecimal number with dividing point.

Example: V00.0A_h = Version 0.10_d

4.2.2 Objects for motion channels C1-C4

- **Object 6 „*C1 Motion*“**

Reports a detected movement.
Sends a switch telegram.
Available only with *Type of lighting = Switching*.

- **Object 7 „*C1 Dimming*“**

Sends the configured dimming values (see *Dimming* parameter page).

- **Object 8 *"Receive C1 brightness threshold"***

This object can be used to change the configured brightness threshold of the channel via bus telegram at any time.

- **Object 9 *"Teach in C1 brightness threshold"***

After receiving a 1 by the object, the current brightness value is applied as threshold.

- **Objekt 10 „*Receive C1 Alt. brightness threshold*"**

This object can be used to change the configured alternative brightness threshold of the channel via bus telegram at any time.

- **Objekt 11 „*Teach in C1 Alt. brightness threshold*"**

After receiving a 1 by the object, the current brightness value is applied as alternative threshold.

- **Objekt 12 „*SELECT C1 Alt. Brightness threshold*"**

Activates the alternative brightness threshold.

- **Object 13 „*Receive C1 time delay*“**

This object can be used to change the configured time delay of the channel via bus telegram at any time.

- **Object 14 *„Receive C1 Alternative time delay“***

This object can be used to change the configured alternative time delay of the channel via bus telegram at any time.

- **Object 15 *„Select C1 Alternative time delay“***

Activates the alternative time delay.

- **Objekt 16 *„Block C1“***

Only available if the block function is activated.

The behaviour on setting and cancelling the block and the acting direction can be selected on the *Motion channel C1: Function* parameter page.

- **Object 17 *„C1 Perm ON“***

Only available if the *Perm On* function is activated.

As long as the function is activated, the channel remains switched on or on the setting for basic light (see table below).
However, the status of the channel can be changed with the preset finish Permanent ON, or by using the remote control (see comments).
During *Perm ON*, motion will not be taken into consideration.

Table 3

Parameter *Type of lighting*	Response to *Perm On*
Switching	Switching on
Dimming	Basic light or switching on

Comments:

- The remote control only acts on C1.
- If the permanent condition is activated by using the remote control, it will be automatically terminated after 8 h.
- The response on Permanent ON is also influenced by setting the parameter *Execute Perm ON* (see *Motion channel C1: Function* parameter page).

- **Object 18** *"C1 Parallel switching"*

Parameter *Operating mode*	Object function	Description
Master in parallel switching	*send/receive*	Sends a 1 when detecting motion at the interval of the retrigger time, without considering a brightness threshold. Receives the 1 telegrams of the slave devices and switches the light on by considering the brightness threshold.
Slave	*Send*	Sends a 1 when detecting motion at the interval of the retrigger time, without considering a brightness threshold.
Master in individual switching	not present.	

- **Object 19** *„C1 Test mode“*

The test mode is activated with a 1.
It allows a fast and simple alignment of the device.

In test mode, the output (obj. 6) switches on upon each detected motion for 2 s.
The brightness is not taken into consideration.

The test mode can be deactivated with a 0 on the corresponding object.
Otherwise it will be terminated automatically after 10 min.

- **Object 20** ***"C1 External brightness value"***

Receives the brightness value from another KNX sensor (e.g. motion detector) from another area.

- **Object 21** ***„C1 Receive scene“***

Receiving scene number 1-64 (see *Scenes* parameter page).

- **Object 22-69**

Objects for channels C2-C4.
Function identical to C1.

4.2.3 Objects for universal channels C5-C8

- **Object 70** *"C5.1 Universal channel switch/valuator/priority"*

This is the first initial object of a universal channel
The function of the object depends on the selected telegram type
(see *Objects* parameter page, *Telegram type C5.1* parameter).

Table 4

<table>
<tr><th>Telegram type</th><th>Format</th><th>Sent telegrams</th></tr>
<tr><td>Switching</td><td>DPT 1,001 (On/Off)</td><td>On / Off</td></tr>
<tr><td>Priority</td><td>DPT 2,001 (priority control)</td><td>2 bit telegram
<table>
<tr><th>Operation</th><th>Value</th></tr>
<tr><td>no priority (no control)</td><td>0</td></tr>
<tr><td>Priority OFF (control. Function value 0)</td><td>2</td></tr>
<tr><td>Priority ON (control. Function value 1)</td><td>3</td></tr>
</table></td></tr>
<tr><td>Value</td><td>DPT 5,010</td><td>Value between 0 and 255</td></tr>
</table>

- **Object 71** *"C5.2 Universal channel switch/valuator/priority"*

This is the second initial object of a universal channel
The function of the object depends on the selected telegram type
(see *Objects* parameter page, *Telegram type C5.2* parameter).

The telegram type can be configured independently of the 1st initial object.
The same setting options are available for this purpose as for the 1st initial object
(see table above for object 70).

The cycle time and the block behaviour are valid together for both objects (objects 70+71).

- **Object 72** *"Block C5"*

Only available if the block function is activated.

The behaviour on setting/cancelling the block and the acting direction can be selected on the *Objects* parameter page.

- **Object 73** *"C5 brightness threshold"*

This object can be used to change the configured brightness threshold of the channel via bus telegram at any time.

- **Objects 74-85**

Objects for universal channels C6-C8.
Function identical to C5.

4.2.4 Objects for logic modules C9-C12

- **Object 86** *"C9 Logic module, logic input 1 in AND/OR/XOR gate"*

First input object of the logic module.

- **Object 87** *"C9 Logic module, logic input 2 in AND/OR/XOR gate"*

Second input object of logic module.

- **Object 88** *"C9 Logic module, logic input 3 in AND/OR gate"*

Third input object of logic module.
Not used with XOR link.

- **Object 89** *"C9 Logic module, logic input 4 in AND/OR gate"*

Fourth input object of logic module.
Not used with XOR link.

- **Object 90** *"C9 logic module, block"*

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 parameters.

- **Object 91***"C9.1 Logic module, switch/valuator/priority"*

This is the first initial object of the logic module.
The function of the object depends on the selected telegram type
(see *Objects* parameter page, *Telegram type C9.1* parameter).

Table 5

<table>
<tr><th>Telegram type</th><th>Format</th><th>Sent telegrams</th></tr>
<tr><td>Switching</td><td>DPT 1,001 (On/Off)</td><td>On / Off</td></tr>
<tr><td>Priority</td><td>DPT 2,001 (priority control)</td><td>2 bit telegram
<table>
<tr><th>Operation</th><th>Value</th></tr>
<tr><td>no priority (no control)</td><td>0</td></tr>
<tr><td>Priority OFF (control. Function value 0)</td><td>2</td></tr>
<tr><td>Priority ON (control. Function value 1)</td><td>3</td></tr>
</table></td></tr>
<tr><td>Value</td><td>DPT 5,010</td><td>Value between 0 and 255</td></tr>
</table>

- **Object 92***"C9.2 Logic module, switch/valuator/priority"*

This is the second initial object of the logic module.
The function of the object depends on the selected telegram type
(see *Objects* parameter page, *Telegram type C9.2* parameter).

The telegram type can be configured independently of the 1st initial object.
The same setting options are available for this purpose as for the 1st initial object
(see table above at object 91).

The cycle time and the blocking behaviour are valid together for both objects (objects 91+92).

- **Objects 93-113**

Objects for the logic channels C10-C12.
Function identical to C9.

4.2.5 Objects for the remote control

- **Object 114** *„Remote control button 1, send scene“*

Sends a scene number if button 1 of the remote control is pressed.
See *Remote control* parameter page.

- **Object 115** *„Remote control button 2, send scene“*

Sends a scene number if button 2 of the remote control is pressed.
See *Remote control* parameter page.

4.3 Parameters

4.3.1 Parameter pages

Motion detector theLuxa P300 has 3 different channel types:

- Motion channels
- Universal channels
- Logic channels

Table 6

Function	Description
General	Selection of the used channels and general settings.
Measurement values	Settings for sending brightness and temperature.
Motion channel C1-C4: Function	Basic settings for the motion-dependent channels.
Brightness settings	Brightness threshold etc.
Time settings	Time delay, switch-on delay etc.
Dimming	Preset dimming values.
Switching times	Settings for up to 8 switching programmes.
Presets	8 presettings for brightness threshold, time delay, blocking behaviour, and permanent switching. Callable via switching times or scenes.
Scenes	Response to specific scene numbers.
Universal channel C5-C8: Function	Basic settings for the universal channels.
Objects	Telegram type, switch and blocking behaviour etc.
Logic channel C9-C12: Function	Basic settings for the logic channels.
Objects	Telegram type, switch and blocking behaviour etc.

4.3.2 General parameter page

Table 7

Designation	Values	Description
Activate motion channel C1	***yes..*** *no*	Activate required motion channels
Activate motion channel C2	*yes..* ***no***	
Activate motion channel C3	*yes..* ***no***	
Activate motion channel C4	*yes..* ***no***	
Activate universal channel C5	***yes..*** *no*	Activate required universal channels
Activate universal channel C6	*yes..* ***no***	
Activate universal channel C7	*yes..* ***no***	
Activate universal channel C8	*yes..* ***no***	
Activate logic channel C9	***yes..*** *no*	Activate required logic channels
Activate logic channel C10	*yes..* ***no***	
Activate logic channel C11	*yes..* ***no***	
Activate logic channel C12	*yes..* ***no***	
Sensitivity of sensors	*adjustable via potentiometer* *low* ***normal*** *high*	Set sensitivity directly at the device. Select sensitivity level.
Overwrite threshold and time delay on download	*yes* ***no***	Upon download, all thresholds and time delays stored in the device shall be replaced by the values configured in the ETS. Thresholds and time delays already stored in the device will be preserved, even after download. **NO: With the first download (factory setting) or after unloading the detector, valid parameter values have to be downloaded first.**

Continuation:

Designation	Values	Description
Activate dismounting protection	*yes*	The presence of the device should be monitored: For this purpose, object 4 permanently sends cyclical telegrams on the bus (theft protection). If these telegrams are monitored, the absence of the device can be reported.
	no	No monitoring required.
Cycle time for dismounting protection	*every min.* *every 2 min.* *every 3 min.* ***every 5 min.*** *every 10 min.* *every 15 min.* *every 20 min.* *every 30 min.*	For this purpose, the device cyclically sends OFF telegrams. Dismounting is detected if the cyclical sending stops.

4.3.3 Measurement values parameter page

Table 8

Designation	Values	Description
Brightness adjustment in %	*-30..30* (Default = ***0***)	Correction value for brightness measurement if the sent value deviates from the actual surrounding brightness. Example: Brightness = 1000 lx Sent = 1100 lx Correction value = -10 %
Transmit brightness value upon change	*no* *of 10 %, but at least 1 lx* *of 20 %, but at least 1 lx* ***of 30 %, but at least 1 lx*** *of 50 %, but at least 1 lux*	only send cyclically (if enabled) Send if the value has changed by 20%, 30% etc. since it was last sent However, if a change of 20 % corresponds to a change in brightness < 1 lx, then the value is not sent until the change is >1 lx.
Transmit brightness value cyclically	***do not send cyclically*** *every min.* *every 2 min.* *every 3 min.* *every 5 min.* *every 10 min.* *every 15 min.* *every 20 min.* *every 30 min.* *every 45 min.* *every 60 min.*	How often should the current brightness value be resent?
Temperature calibration in 0.1°C	*-64..63* (Default = ***0***)	Correction value for temperature measurement if sent temperature deviates from the actual ambient temperature. Example: temperature = 20°C sent temperature = 21°C Correction value = -10 (i.e. -10 x 0.1°C)

Continuation:

Designation	Values	Description
Transmit temperature in the event of change	*no* *of 0.5 °C* ***of 1.0 °C*** *of 1.5 °C* *of 2.0 °C* *of 2.5 °C*	only send cyclically (if enabled) Send if the value has changed for example by 0.5°C or 1°C since it was last sent.
Send temperature cyclically	***do not send cyclically*** *every min.* *every 2 min.* *every 3 min.* *every 5 min.* *every 10 min.* *every 15 min.* *every 20 min.* *every 30 min.* *every 45 min.* *every 60 min.*	At which interval should the current temperature be sent again?

4.3.4 Motion channel C1..C4: Function - parameter pages.

Table 9

Designation	Values	Description
Operating mode	*Slave*	The channel reports motion by cyclical 1 telegrams. No time function and no consideration of brightness.
	Master	Normal function. The channel switches depending on motion and brightness, with adjustable time delay.
Master operating mode	***Master in individual switching***	Standard application for an area in which only one motion detector is required.
	Master in parallel switching	In addition to its own motion detection, the channel also responds to telegrams from slave devices. Furthermore, it sends 1 telegrams upon detection of motion on the parallel switching object (obj. 18, cf. Slave).
Mode of operation	***Fully automatic device***	Switches on when all conditions are met (e.g. motion and darkness) and switches off when the time delay has elapsed.
	Semi-automatic device	The consumer (e.g. lighting) is switched on manually. The motion detector switches off.
*Brightness threshold and time delay**	*adjustable via potentiometer*	Brightness threshold and time delay for C1 adjustable directly at the device.
	adjustable via ETS	The potentiometer settings have no influence on brightness threshold and time delay. Only ETS parameters and teach-in telegrams will take effect.

*ONLY for C1

Continuation:

Designation	Values	Description
Used sensors	*no sensor*	The motion sensors left, centre, and right will not be used.
	left, centre, right	Selection of the zones to be monitored.
	left, centre	
	centre, right	
	left, right	
	left	
	centre	
	right	
Activate sensor bottom (creep under protection)	***yes***	Motion directly below the detector shall be detected.
	no	Creep under protection not required.
Type of lighting	***Switching***	The channel controls a switch actuator. Send only ON/OFF telegrams.
	Dimming	The channel controls a dimming actuator. ON/OFF, and send dimming telegrams.
Activate perm ON	*via OFF telegram*	Perm ON is triggered by a 0 on object 17.
	via ON telegram	Perm ON is triggered by a 1 on object 17.
Execute perm ON	***only if fallen below brightness value***	The channel should only switch on during perm ON if the brightness is below the brightness threshold.
	always	Do not take brightness into account during perm ON.
Block telegram	***Block with ON telegram***	0 = Cancel block 1 = Block
	Block with OFF telegram	0 = Block 1 = Cancel block **Note:** The block is always deactivated after reset.

Continuation:

Designation	Values	Description
Telegram when setting the block	***no telegram***	Do not send.
	as with OFF	Same behaviour as when no motion is detected.
Retrigger time	*30 s* *1 min.* *2 min.* *3 min.* *4 min.*	As long as motion is detected, object 18 sends cyclical switch on telegrams for further master devices. Only for master in parallel switching and slave operation*.

* In slave operation, the retrigger time must be set shorter than half of the time delay of the master device. Otherwise, no additional switching on can be triggered in the master device at the end of the cycle time.

Example: Time delay Master = 5 min. → the retrigger time must be max. 2 minutes.

4.3.5 Brightness settings parameter page

Table 10

Designation	Values	Description
Source of brightness value	***internal***	The brightness is measured in the device.
	Object	The brightness value is received by another device.
Brightness threshold adjustable via bus	*yes*	The current brightness threshold can be configured any time via bus telegrams.
	no	Changing is only possible via ETS download or teach in.
Brightness threshold value	*independent of brightness*	The brightness is not taken into consideration.
	1 lx, , 1.5 lx, 2 lx *2.5 lx, 3 lx, 3.5 lx* *4 lx, 4.5 lx, 5 lx* *5.5 lx, 6 lx, 7 lx* *7.5 lx, 8 lx, 9 lx* *10 lx, 15 lx, 20 lx* *25 lx, 30 lx, 35 lx* *40 lx, 45 lx, 50 lx* *55 lx, 60 lx, 70 lx* *75 lx, 80 lx, 90 lx* *100 lx, 150 lx, 200 lx* *250 lx, 300 lx, 350 lx* ***400 lx**, 450 lx, 500 lx* *550 lx, 600 lx, 700 lx* *750 lx, 800 lx, 900 lx* *1000 lx, 1500 lx, 2000 lx* *2500 lx, 3000 lx*	In case of motion, the channel output is only switched on if the measured brightness is below the set brightness threshold.
Light hysteresis	***20 % but at least 1 lux*** *30 %, but at least 1 lux* *50 %, but at least 1 lux*	The hysteresis prevents frequent change over after small changes in brightness.
Delay time brightness	***none***	In case of motion and with brightness below the brightness threshold, the channel switches on immediately.
	*5 s, **10 s**, 20 s* *30 s, 1 min., 2 min.* *3 min., 5 min., 10 min.* *15 min., 20 min.*	In case of detected motion and with brightness below the brightness threshold

Continuation:

Designation	Values	Description
Use alternative brightness threshold	*yes* ***no***	Use an additional brightness threshold. Do not use.
Alternative brightness threshold	*independent of brightness* *1 lx, , 1.5 lx, 2 lx* *2.5 lx, 3 lx, 3.5 lx* *4 lx, 4.5 lx, 5 lx* *5.5 lx, 6 lx, 7 lx* *7.5 lx, 8 lx, 9 lx* *10 lx, 15 lx, 20 lx* *25 lx, 30 lx, 35 lx* *40 lx, 45 lx, 50 lx* *55 lx, 60 lx, 70 lx* *75 lx, 80 lx, 90 lx* *100 lx, 150 lx, 200 lx* *250 lx, 300 lx, 350 lx* ***400 lx**, 450 lx, 500 lx* *550 lx, 600 lx, 700 lx* *750 lx, 800 lx, 900 lx* *1000 lx, 1500 lx, 2000 lx* *2500 lx, 3000 lx*	With activated alternative brightness threshold, the channel always has to switch in case of motion, and not take brightness into account. Select alternative brightness threshold.
Alternative brightness threshold adjustable via bus	*yes* ***no***	The current alt. brightness threshold can be overwritten via obj. 10. Changing is only possible via ETS download or teach in.

4.3.6 Time settings parameter page

Table 11

Designation	Values	Description
Time delay	*1 s, 5 s, 10 s* *15 s, 20 s, 25 s* *30 s, 40 s, 50 s* ***1 min.**, 2 min., 3 min.* *5 min., 10 min., 15 min.* *20 min., 30 min., 40 min.* *50 min., 1 h*	Turn-on time when motion detected.
Time delay adjustable via bus	*yes* ***no***	The time delay can be configured any time via bus telegrams. Changing is only possible via ETS download or teach in.
Use alternative time delay	*yes* ***no***	Use an additional time delay. Do not use.
Alternative time delay	*1 s, 5 s, 10 s* *15 s, 20 s, 25 s* *30 s, 40 s, 50 s* ***1 min.**, 2 min., 3 min.* *5 min., 10 min., 15 min.* *20 min., 30 min., 40 min.* *50 min., 1 h*	Select alternative time delay.
Alternative time delay adjustable via bus	*yes* ***no***	The alternative time delay can be configured any time via bus telegrams. Changing is only possible via ETS download or teach in.
Use switch-on delay	*yes* ***no***	Select if the channel should not switch on immediately upon detected motion. Always switch on immediately.

Continuation:

Designation	Values	Description
Switch-on delay	*1 s, 5 s,* ***10 s*** * 15 s, 20 s, 25 s 30 s, 40 s, 50 s 1 min., 2 min., 3 min. 5 min., 10 min., 15 min. 20 min., 30 min., 40 min. 50 min., 1 h*	In case of detected motion and with brightness possibly below the brightness threshold, the channel switches on, only after the set delay has elapsed.
Time between switching off and on	***1 s*** *1,4 s* *2 s* *3 s*	Minimum time for the channel to remain switched off. Prevents unwanted switching back on.
Retrigger	***yes***	With the first motion, the channel switches on for the set time delay. With every further motion, the current time delay will be restarted. With this setting, the short-term presence function is not available.
	no	With the first motion, the channel switches on only for the set time delay. A further motion during that time has no effect.
Short-term presence		Energy saving function: If a room is entered only briefly, the duty cycle of the lighting will be reduced. This function is only possible if *Retrigger = no* (see above).
	yes	When the first motion is detected, the channel will be switched on for 2 min. If the next motion is detected after 15 s, the current time delay will be applied. With time delays shorter than 3 minutes, this function is not activated.
	no	Short-term presence is deactivated.

Continuation:

Designation	Values	Description
Cyclical transmission	***do not send cyclically*** *every min.* *every 2 min.* *every 3 min.* *every 5 min.* *every 10 min.* *every 15 min.* *every 20 min.* *every 30 min.* *every 45 min.* *every 60 min.*	At which interval should the channel status be sent again?

4.3.7 Dimming parameter page

Table 12

Designation	Values	Description
Dimming value during ON phase	*0 %* *10 %, 20 %, 30 %* *40 %, 50 %, 60 %* *70 %, 80 %, 90 %* ***100 %***	Switch off lighting In case of detected motion, control the dimmer with the selected dimming value.
Dimming value during standby phase	*0 %* ***10 %**, 20 %, 30 %* *40 %, 50 %, 60 %* *70 %, 80 %, 90 %* *100 %*	After the time delay, there is the so called standby phase, usually with reduced dimming value.
Standby time	*OFF* *30 s, 40 s, 50 s* ***1 min.**, 2 min., 3 min.* *5 min., 10 min., 15 min.* *20 min., 30 min., 40 min.* *50 min., 1 h, 1 h 15 min.* *1 h 30 min., 1 h 45 min., 2 h*	No standby function. Time limit for standby mode.
Dimming value when setting the block	***0 %*** *10 %, 20 %, 30 %* *40 %, 50 %, 60 %* *70 %, 80 %, 90 %* *100 %*	Desired dimming value if the block is triggered e.g. via object, time switch program, or scene (presets).
Dimming value when OFF	***0 %*** *10 %, 20 %, 30 %* *40 %, 50 %, 60 %* *70 %, 80 %, 90 %* *100 %*	Dimming value if no motion and no standby is available.
Dimming value during permanent switching	*0 %* *10 %, **20 %**, 30 %* *40 %, 50 %, 60 %* *70 %, 80 %, 90 %* *100 %*	Desired dimming value if the permanent switching is triggered e.g. via object, time switch program, or scene (presets).

4.3.8 Switching times parameter page

Each motion channel has up to 8 switching times.
Each of these switching times can call up a different *preset* action.
This allows to change brightness threshold and time delay, to block the channel, or to trigger permanent switching in a time-controlled manner.
For activating switch programmes, a time must have been received at least once.

Table 13

Designation	Values	Description
Activate switch programme 1	***no***	Deactivated
	yes	Switch programme has to execute a *preset* action at the defined time.
Switching time	*12:00 a.m. – 11:45 p.m.* (in 15 min. increments)	Select time for the execution of the switching time.
Program active at	*daily* *Mon - Fri* *Mon - Sat* *Fri - Sun* *Sat - Sun* *Mon* *Tue* *Wed* *Thu* *Fri* *Sat* *Sun* ..and all other possible combinations of weekdays.	Day or days on which the switching time is executed. All days can be selected individually or in a combination.
Action	*Preset 1* *Preset 2* *Preset 3* .. *Preset 8*	Preset action which is to be executed at this switching time. See *Presets* parameter page.
Activate switch programme 2	*no* *yes*	See above, switching time 1
Activate switch programme 3	*no* *yes*	See above, switching time 1
Activate switch programme 4	*no* *yes*	See above, switching time 1
Activate switch programme 5	*no* *yes*	See above, switching time 1
Activate switch programme 6	*no* *yes*	See above, switching time 1
Activate switch programme 7	*no* *yes*	See above, switching time 1
Activate switch programme 8	*no* *yes*	See above, switching time 1

4.3.9 Presets parameter page

Presets can execute the following actions:

- Selection of brightness threshold (normal/alternative)
- Selection of time delay (normal/alternative)
- Block channel or cancel block
- Trigger permanent switching (ON/OFF)

Each motion dependent channel has 8 presets.
These can be called up via switching times or scene numbers.

Table 14

Designation	Values	Description
Preset 1		
Brightness threshold value	***unchanged***	No influence on brightness threshold.
	normal brightness threshold	Activate normal brightness threshold.
	alternative brightness threshold (if available)	Activate alternative brightness threshold.
Time delay	***unchanged***	No influence on time delay.
	normal time delay	Activate normal time delay.
	alternative time delay (if available)	Activate alternative time delay. Only possible if an alternative time delay is used.
Blocking behaviour	***unchanged***	No influence on block.
	block (if activated)	Block channel. Only possible if the block function is activated.
	Cancel Block (if activated)	Terminate channel block. Only possible if the block function is activated.
Permanent switching	***unchanged***	No influence on permanent switching.
	Perm ON	Switch on channel permanently.
	Finish Permanent ON	Finish Permanent ON

Continuation:

Designation	Values	Description
Preset 2		
Brightness threshold value	*See Preset 1*	
Time delay		
Blocking behaviour		
Permanent switching		
Preset 3		
Brightness threshold value	*See Preset 1*	
Time delay		
Blocking behaviour		
Permanent switching		
Preset 4		
Brightness threshold value	*See Preset 1*	
Time delay		
Blocking behaviour		
Permanent switching		
Preset 5		
Brightness threshold value	*See Preset 1*	
Time delay		
Blocking behaviour		
Permanent switching		
Preset 6		
Brightness threshold value	*See Preset 1*	
Time delay		
Blocking behaviour		
Permanent switching		
Preset 7		
Brightness threshold value	*See Preset 1*	
Time delay		
Blocking behaviour		
Permanent switching		
Preset 8		
Brightness threshold value	*See Preset 1*	
Time delay		
Blocking behaviour		
Permanent switching		

4.3.10 Scenes parameter page

Each motion channel can respond to up to 8 different scene numbers.
When receiving a scene number, the corresponding preset action will be executed.
The 1st scene calls up preset 1, the 2nd scene calls up preset 2, etc.

Table 15

Designation	Values	Description
1st scene - Preallocated preset 1		
Channel reacts to	*no scene number* *Scene number 1* .. *Scene number 64*	Do not use preset 1. When receiving the scene number set here, preset 1 will be executed.
Comment for this scene number	Free text input (max. 46 characters).	Comment text for the user, e.g. *business hours, weekend etc*.
2nd scene - Preallocated preset 2		
Channel reacts to	*no scene number* *Scene number 1* Standard = ***Scene number 2*** .. *Scene number 64*	Do not use preset 2. When receiving the scene number set here, preset 2 will be executed.
Comment for this scene number	Free text input (max. 46 characters).	Comment text for the user.
3rd scene - Preallocated preset 3		
Channel reacts to	*no scene number* *Scene number 1* .. Standard = ***Scene number 3*** .. *Scene number 64*	Do not use preset 3. When receiving the scene number set here, preset 3 will be executed.
Comment for this scene number	Free text input (max. 46 characters).	Comment text for the user.
4rd scene - Preallocated preset 4		
Channel reacts to	*no scene number* *Scene number 1* .. Standard = ***Scene number 4*** .. *Scene number 64*	Do not use preset 4. When receiving the scene number set here, preset 4 will be executed.
Comment for this scene number	Free text input (max. 46 characters).	Comment text for the user.

Continuation:

Designation	Values	Description
5th scene - Preallocated preset 5		
Channel reacts to	*no scene number* *Scene number 1* .. Standard = ***Scene number 5*** .. *Scene number 64*	Do not use preset 5. When receiving the scene number set here, preset 5 will be executed.
Comment for this scene number	Free text input (max. 46 characters).	Comment text for the user.
6th scene - Preallocated preset 6		
Channel reacts to	*no scene number* *Scene number 1* .. Standard = ***Scene number 6*** .. *Scene number 64*	Do not use preset 6. When receiving the scene number set here, preset 6 will be executed.
Comment for this scene number	Free text input (max. 46 characters).	Comment text for the user.
7th scene - Preallocated preset 7		
Channel reacts to	*no scene number* *Scene number 1* .. Standard = ***Scene number 7*** .. *Scene number 64*	Do not use preset 7. When receiving the scene number set here, preset 7 will be executed.
Comment for this scene number	Free text input (max. 46 characters).	Comment text for the user.
8th scene - Preallocated preset 8		
Channel reacts to	*no scene number* *Scene number 1* .. Standard = ***Scene number 8*** .. *Scene number 64*	Do not use preset 8. When receiving the scene number set here, preset 8 will be executed.
Comment for this scene number	Free text input (max. 46 characters).	Comment text for the user.

4.3.11 Universal channel C5..C8: function - parameter pages

Table 16

Designation	Values	Description
Use brightness sensor	***yes***	The channel has to switch depending on brightness.
	no	Do not take brightness into account.
Use temperature sensor	*yes*	The channel has to switch depending on temperature.
	no	Do not take temperature into account.
Type of link	***AND***	Fulfilled if the conditions for temperature AND brightness threshold are fulfilled.
	OR	Fulfilled if the condition of **one** of the two thresholds is fulfilled, i.e. temperature OR brightness threshold.
Brightness threshold value	*Below 1.5 lx .. below 90000 lx* (in 75 increments)	The channel switches on if the value is below the entered threshold.
	Above 1 lx .. above 90000 lx (in 75 increments, default = **10000 lx**)	The channel switches on if the value is above the entered threshold.
Value can be overwritten via object	***yes*** *no*	Should it be possible to change the configured brightness threshold via bus telegrams at any time?
Value can be overwritten on download	***yes***	With an ETS download, the brightness threshold currently stored in the device is deleted and overwritten with the value set in the ETS.
	no	An ETS download, does not have any effect on the brightness threshold currently stored in the device. **Exception:** Even if *no* is selected, **all** ETS parameter values are downloaded during initial operation (i.e. with an empty device memory).

Continuation:

Designation	Values	Description
Light hysteresis	***20 % but at least 1 lux*** *30 %, but at least 1 lux* *50 %, but at least 1 lux*	The hysteresis prevents frequent change over after small changes in brightness. Depending on the selected condition, it can be either negative or positive. **Example** with 20% hysteresis: Condition: "ABOVE 4500 lx“ = fulfilled from 4500 lx and no longer fulfilled at 4500 lx - 20% Condition: "BELOW 4500 lx“ = fulfilled below 4500 lx and no longer fulfilled at 4500 lx + 20%
Delay when brightness increases	*none* *5 s, 10 s, 20 s, 30 s, 1 min., 2 min.,* ***3 min.**, 5 min., 10 min., 15 min., 20 min.*	Response time when it gets brighter and the selected threshold is passed as a result. This setting prevents conflicting telegrams from being sent during short changes in brightness
Delay when brightness decreases	*none* *5 s, 10 s, 20 s, 30 s, 1 min., 2 min.,* *3 min., 5 min., **10 min.**, 15 min., 20 min.*	Response time when it gets darker and the selected threshold is passed as a result. This setting prevents conflicting telegrams from being sent during short changes in brightness
Temperature threshold	*below –10°C to over 40°C (at 1 K increments)* *above –10 °C to above 40 °C* Default = ***above 18 °C***	Condition fulfilled if the temperature is below the set value. Condition fulfilled if the temperature is above the set value.
Temperature hysteresis	***1.0 K**, 1.5 K* *2.0 K, 2.5 K*	The hysteresis prevents frequent change over at small temperature changes. It can be negative or positive depending on the selected condition (above or below xx°C) (see Light hysteresis).

4.3.12 Objects parameter page

All universal and logic channels have this type of parameter page.
Here, the response on fulfillment or non-fulfillment of the condition(s) is configured.

Table 17

<table>
<tr><th>Designation</th><th>Values</th><th>Description</th></tr>
<tr><td>Telegram type C5.1</td><td>Switch command

Priority

Value</td><td>1 bit ON/OFF

2 bit
<table><tr><th>Function</th><th>Value</th></tr><tr><td>Priority not active
(no control)</td><td>0 (00_{bin})</td></tr><tr><td>Priority ON
(control: Function value 1)</td><td>3 (11_{bin})</td></tr><tr><td>Priority OFF
(control: Function value 0)</td><td>2 (10_{bin})</td></tr></table>1 byte 0 .. 255</td></tr>
<tr><td>If the condition is met</td><td>no telegram
send following telegram once
send cyclically</td><td>Transmission behaviour if the channel condition is fulfilled.</td></tr>
<tr><td>Telegram</td><td>

ON
OFF

no priority
Priority, ON
Priority, OFF

Telegram 0 .. 255</td><td>Type of telegram for the first initial object of the channel when the condition is fulfilled:
For telegram type Switch command.

For telegram type Priority.

For telegram type Value.</td></tr>
<tr><td>If the condition is not met</td><td>no telegram
send following telegram once
send cyclically</td><td>Transmission behaviour if the channel condition is not fulfilled.</td></tr>
<tr><td>Telegram</td><td>

ON
OFF

no priority
Priority, ON
Priority, OFF

Telegram 0 .. 255</td><td>Type of telegram for the first initial object of the channel in case of unfulfilled condition:
For telegram type Switch command.

For telegram type Priority.

For telegram type Value.</td></tr>
</table>

Continuation:

<table>
<tr><th>Designation</th><th>Values</th><th>Description</th></tr>
<tr><td>Should a second telegram be sent?</td><td>Yes
no</td><td>If yes has been selected, further parameters and a second transmission object appear.
It can be used to send 2 different telegrams at the same time on the same channel.
The cycle time and the block behaviour apply to both objects.</td></tr>
<tr><td>Telegram type C5.2</td><td>Switch command

Priority

Value</td><td>2nd initial object of the channel
1 bit ON/OFF

2 bit
<table><tr><th>Function</th><th>Value</th></tr><tr><td>Priority not active
(no control)</td><td>0 (00_{bin})</td></tr><tr><td>Priority ON
(control: Function value 1)</td><td>3 (11_{bin})</td></tr><tr><td>Priority OFF
(control: Function value 0)</td><td>2 (10_{bin})</td></tr></table>
1 byte 0 .. 255</td></tr>
<tr><td>If the condition is met</td><td>no telegram
send following telegram once
send cyclically</td><td>Transmission behaviour if the channel condition is fulfilled.</td></tr>
<tr><td>Telegram</td><td>

ON
OFF

no priority
Priority, ON
Priority, OFF

Telegram 0 .. 255</td><td>Type of telegram for the second initial object of the channel in case of fulfilled condition:
For telegram type Switch command.

For telegram type Priority.

For telegram type Value.</td></tr>
<tr><td>If the condition is not met</td><td>no telegram
send following telegram once
send cyclically</td><td>Transmission behaviour if the channel condition is not fulfilled.</td></tr>
<tr><td>Telegram</td><td>

ON
OFF

no priority
Priority, ON
Priority, OFF

Telegram 0 .. 255</td><td>Type of telegram for the second initial object of the channel in case of unfulfilled condition:
For telegram type Switch command.

For telegram type Priority.

For telegram type Value.</td></tr>
</table>

Continuation:

Designation	Values	Description
Activate block function	*Yes* ***no***	Show block parameter and block object. No block function.
Behaviour when setting the block	***do not send*** *as with unfulfilled condition* *as with fulfilled condition*	No telegrams while the block is set. Same reaction as set in the *When the condition is not fulfilled* parameter (see above). Same reaction as set in the *When the condition is fulfilled* parameter (see above).
Behaviour when cancelling the block	*do not send* ***Update channel***	Not automatically resent when the block is cancelled The current channel status is sent immediately as soon as the block is cancelled
Cycle time (if used)	*every min.* *every 2 min.* *every 3 min.* *every 5 min.* *every 10 min.* *every 15 min.* *every 20 min.* *every 30 min.* *every 45 min.* ***every 60 min.***	How often should the telegrams for C5.1 and C5.2 be sent?

4.3.12.1 "*Logic channel C9..C12*" - parameter pages

The logic channel block forms a separate unit, which is internally completely independent of brightness, temperature, and motion.
Thus, the logic channels can be included for the widest range of tasks within a KNX installation.

Principle:
Up to four 1 bit input values can be logically linked with each other.

These input values can be:

- Input objects of the logic channels
- Status of motion channels (fulfilled/unfulfilled)
- Status of universal channels (fulfilled/unfulfilled)
- Link result of the other logic channels (a logic channel cannot be linked with itself)

The response of the initial objects with fulfilled or unfulfilled condition is set on the *Objects* parameter page.
The logic channels are activated on the General parameter page.

Table 18

Designation	Values	Description
Type of link		Selection of logical link between the 1 bit input values (see below)
	AND	2 to 4 inputs
	OR	
	XOR	2 inputs
Use input 1	***Yes***	Input is used.
	Yes, inverted	Input acts inverted.
Use input 2	***Yes***	See above, input 1
	Yes, inverted	
Use input 3	***No***	Input is hidden.
	Yes	See above.
	Yes, inverted	
Use input 4	***No***	Input is hidden.
	Yes	See above.
	Yes, inverted	

Continuation:

Designation	Values	Description
Input value for input 1	***Input object***	First input object of the channel (e.g. obj. 86 for C9)
	Motion channel C1 Motion channel C2 Motion channel C3 Motion channel C4	Status of a motion channel (ON/OFF).
	Universal channel C5 Universal channel C6 Universal channel C7 Universal channel C8	Status of a universal channel (fulfilled/unfulfilled).
	Link result logic channel C9[(1)] *Link result logic channel C10*[(2)] *Link result logic channel C11*[(3)] *Link result logic channel C12*[(4)]	Link result of another logic channel (a logic channel cannot be connected with itself).
Input value for input 2	*See above, Input value for input 1*	2nd input object of the channel. See above.
Input value for input 3	*See above, Input value for input 1*	3rd input object of the channel. See above.
Input value for input 4	*See above, Input value for input 1*	4th input object of the channel. See above.

(1) With C9 not available, (2) With C10 not available, (3) With C11 not available
(4) With C12 not available.

4.3.13 Objects parameter page

All universal and logic channels have this type of parameter page.
Here, the response on fulfillment or non-fulfillment of the condition(s) is configured.

Table 19

<table>
<tr><th>Designation</th><th>Values</th><th>Description</th></tr>
<tr><td>Telegram type C5.1</td><td>Switch command

Priority

Value</td><td>1 bit ON/OFF

2 bit
<table><tr><th>Function</th><th>Value</th></tr><tr><td>Priority not active
(no control)</td><td>0 (00_{bin})</td></tr><tr><td>Priority ON
(control: Function value 1)</td><td>3 (11_{bin})</td></tr><tr><td>Priority OFF
(control: Function value 0)</td><td>2 (10_{bin})</td></tr></table>1 byte 0 .. 255</td></tr>
<tr><td>If the condition is met</td><td>no telegram
send following telegram once
send cyclically</td><td>Transmission behaviour if the channel condition is fulfilled.</td></tr>
<tr><td>Telegram</td><td>

ON
OFF

no priority
Priority, ON
Priority, OFF

Telegram 0 .. 255</td><td>Type of telegram for the first initial object of the channel when the condition is fulfilled:
For telegram type Switch command.

For telegram type Priority.

For telegram type Value.</td></tr>
<tr><td>If the condition is not met</td><td>no telegram
send following telegram once
send cyclically</td><td>Transmission behaviour if the channel condition is not fulfilled.</td></tr>
<tr><td>Telegram</td><td>

ON
OFF

no priority
Priority, ON
Priority, OFF

Telegram 0 .. 255</td><td>Type of telegram for the first initial object of the channel in case of unfulfilled condition:
For telegram type Switch command.

For telegram type Priority.

For telegram type Value.</td></tr>
</table>

Continuation:

<table>
<tr><th>Designation</th><th>Values</th><th>Description</th></tr>
<tr><td>Should a second telegram be sent?</td><td>Yes
no</td><td>If yes has been selected, further parameters and a second transmission object appear.
It can be used to send 2 different telegrams at the same time on the same channel.
The cycle time and the block behaviour apply to both objects.</td></tr>
<tr><td>Telegram type C5.2</td><td>Switch command

Priority

Value</td><td>2nd initial object of the channel
1 bit ON/OFF

2 bit
<table><tr><th>Function</th><th>Value</th></tr><tr><td>Priority not active (no control)</td><td>0 (00_{bin})</td></tr><tr><td>Priority ON (control: Function value 1)</td><td>3 (11_{bin})</td></tr><tr><td>Priority OFF (control: Function value 0)</td><td>2 (10_{bin})</td></tr></table>
1 byte 0 .. 255</td></tr>
<tr><td>If the condition is met</td><td>no telegram
send following telegram once
send cyclically</td><td>Transmission behaviour if the channel condition is fulfilled.</td></tr>
<tr><td>Telegram</td><td>

ON
OFF

no priority
Priority, ON
Priority, OFF

Telegram 0 .. 255</td><td>Type of telegram for the second initial object of the channel in case of fulfilled condition:
For telegram type Switch command.

For telegram type Priority.

For telegram type Value.</td></tr>
<tr><td>If the condition is not met</td><td>no telegram
send following telegram once
send cyclically</td><td>Transmission behaviour if the channel condition is not fulfilled.</td></tr>
<tr><td>Telegram</td><td>

ON
OFF

no priority
Priority, ON
Priority, OFF

Telegram 0 .. 255</td><td>Type of telegram for the second initial object of the channel in case of unfulfilled condition:
For telegram type Switch command.

For telegram type Priority.

For telegram type Value.</td></tr>
</table>

Continuation:

Designation	Values	Description
Activate block function	*Yes* ***no***	Show block parameter and block object. No block function.
Behaviour when setting the block	***do not send*** *as with unfulfilled condition* *as with fulfilled condition*	No telegrams while the block is set. Same reaction as set in the *When the condition is not fulfilled* parameter (see above). Same reaction as set in the *When the condition is fulfilled* parameter (see above).
Behaviour when cancelling the block	*do not send* ***Update channel***	Not automatically resent when the block is cancelled The current channel status is sent immediately as soon as the block is cancelled
Cycle time (if used)	*every min.* *every 2 min.* *every 3 min.* *every 5 min.* *every 10 min.* *every 15 min.* *every 20 min.* *every 30 min.* *every 45 min.* ***every 60 min.***	How often should the telegrams for C5.1 and C5.2 be sent?
Telegram after reset or download	***as with unfulfilled condition*** *as with fulfilled condition* *unknown status: Do not send*	Reaction of channel upon a restart.

4.3.14 Remote control parameter page

By using remote control buttons Scene 1 and Scene 2, scene telegrams can be sent on the bus, as well as executed on preset actions.

Table 20

Designation	Values	Description
Button scene 1		
Send scene number on bus	***no scene number***	Do not send scene telegrams.
	Scene 1..64	Sending a scene number on the bus by pressing scene button 1.
Call up preset for C1	*Preset 1* *Preset 2* *Preset 3* .. *Preset 8*	Executing a preset action on motion channel C1, by pressing scene button 1. See *Presets* parameter page.
Button scene 2		
Send scene number on bus	***no scene number***	Do not send scene telegrams.
	Scene 1..64	Sending a scene number on the bus by pressing scene button 2.
Call up preset for C1	*Preset 1* *Preset 2* *Preset 3* .. *Preset 8*	Executing a preset action on motion channel C1, by pressing scene button 2. See *Presets* parameter page.

5 Typical applications

These typical applications are designed to aid planning and are not to be considered an exhaustive list. It can be extended and updated as required.

5.1 Simple motion detector as a light switch

Motion detector theLuxa P300 KNX is installed at a front door of a house and switches a lamp.
Since the house stands close to the street, passing vehicles should be ignored.
This is achieved by deactivating the motion sensor in the centre via parameter.
As light switch, a channel of the MIX2 switch actuator RMG 8 T is used.

5.1.1 Devices:

- theLuxa P300 KNX (Order no. 1019610 / 1019611)
- RMG 8 T (Order no. 4930200)

5.1.2 Overview

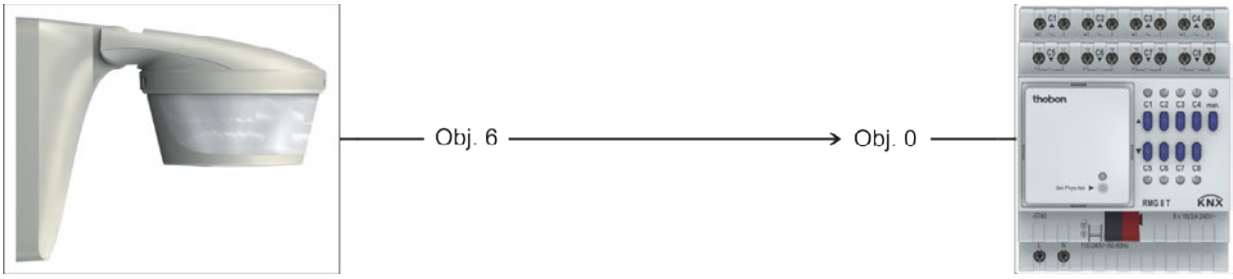

Figure 2

5.1.3 Objects and links

Table 21: Motion detector and switch actuator.

No.	theLuxa P300 KNX Object name	No.	RMG 8 T Object name	Comment
6	*C1 Motion switching*	0	*RMG 8 T channel C1 switch object*	When motion is detected, channel C1 is switched on.

5.1.4 Important parameter settings

Standard or customer-defined parameter settings apply for unlisted parameters.

Table 22:

Parameter page	Parameters	Setting
General	*Type of basic module*	*RMG 8 T*
Basic module RMG 8 T	*Channel C1 function*	*Switch actuator*
RMG 8 T channel C1: Configuration options	*Channel function*	*Switching ON/OFF*
	Activation of function via	*Switching object*

Table 23: theLuxa P300 KNX

Parameter page	Parameters	Setting
General	*Activate motion channel C1*	*yes*
Motion channel C1: Function	*Used sensors*	*left, right*
	Activate sensor bottom (creep under protection)	*yes*
	Type of lighting	*Switching*
Brightness settings	*Brightness threshold value*	*10 lx*

5.2 Cark park lighting with time switch program

The cark park lighting of a company is controlled with a motion detector.
However, the lighting should only be switched on on demand, i.e. when it gets too dark outside.
For this purpose, the brightness threshold is set to 10 lx

The car park is permanently lit from 4:00 p.m. to 6:00 p.m., as soon as the brightness falls below the threshold. Motion will not be taken into consideration.
From 6:00 p.m. to 7:00 p.m., the lighting will be switched on for 5 minutes, when someone enters the car park.
During the remaining time, the lighting will be switched on for 2 minutes when motion is detected (by taking the brightness into consideration).
These functions are implemented with the alternative time delay and with the integrated time switch.

In order to cover the entire area, several devices will be used.
One device functions as master in parallel switching (M) and sends the switch commands to the switch actuator.
The others function as a slave (S1, S2 etc.), and only report detected motion.
The current time and week day can be received e.g. by a Meteodata 140 S GPS weather station.

5.2.1 Devices:

- theLuxa P300 KNX (Order no. 1019610 / 1019611)
- RMG 8 T (Order no. 4930200)
- Meteodata 140 S GPS KNX (Order No. 1409208)

5.2.2 Overview

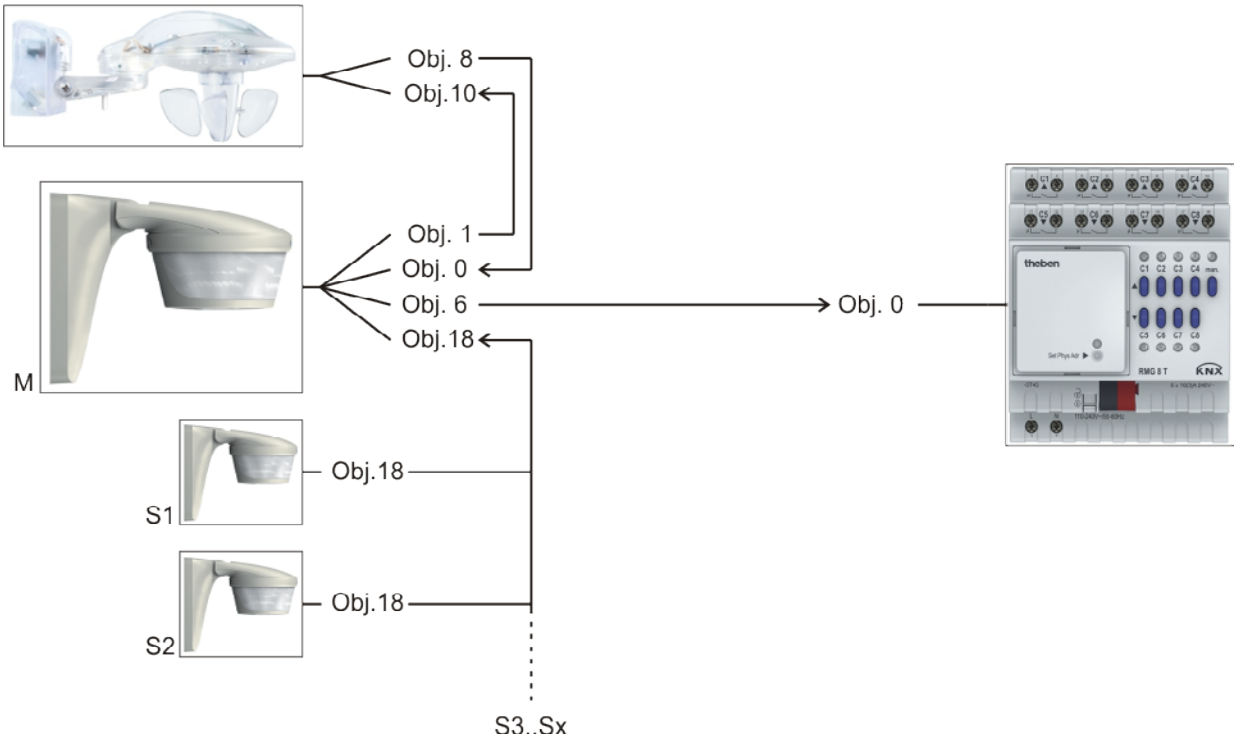

Figure 3

5.2.3 Objects and links

Table 24: Master device and switch actuator.

No.	theLuxa P300 KNX Master device (M)	No.	RMG 8 T	Comment
	Object name		Object name	
6	*C1 Motion switching*	0	*RMG 8 T channel C1 switch object*	When motion is detected by the master or a slave device, channel C1 is switched on.

Table 25: Master and slave devices.

No.	theLuxa P300 KNX Slave devices (S1, S2 etc.)	No.	theLuxa P300 KNX Master device (M)	Comment
	Object name		Object name	
18	*C1 Parallel switching*	18	*C1 Parallel switching*	The slave devices cyclically report each detected motion to the master.

Table 26: Receiving time and week day.

No.	theLuxa P300 KNX Master device (M)	No.	Meteodata 140 S GPS KNX	Comment
	Object name		Object name	
1	*Send time query*	2	*Time query*	theLuxa sends time requests to Meteodata 140 GPS
0	*Receive time*	0	*Send local time*	Meteodata 140 GPS sends time and week day to theLuxa P300 KNX

5.2.4 Important parameter settings

Standard or customer-defined parameter settings apply for unlisted parameters.

Table 27: theLuxa master device

Parameter page	Parameters	Setting
General	*Activate motion channel C1*	*yes*
Motion channel C1: Function	*Operating mode*	*Master in parallel switching*
	Type of lighting	*Switching*
Brightness settings	*Brightness threshold value*	*10 lx*
	Execute perm ON	*only when fallen below brightness threshold*
Time settings	*Time delay*	*2 min.*
	Use alternative time delay	*yes*
	Alternative time delay	*5 min.*
	Activate switch programme 1	*yes*
	Switching time	*4:00 p.m.*
	Program active at	*Mon-Fri*
	Action	***Preset 1***
	Activate switch programme 2	*yes*
	Switching time	*6:00 p.m.*
	Program active at	*Mon-Fri*
	Action	***Preset 2***
	Activate switch programme 3	*yes*
	Switching time	*7:00 p.m.*
	Program active at	*Mon-Fri*
	Action	***Preset 3***
Presets (Preset 1)	*Brightness threshold*	*unchanged*
	Time delay	*unchanged*
	Blocking behaviour	*unchanged*
	Permanent switching	*Perm ON*
Presets (Preset 2)	*Brightness threshold*	*unchanged*
	Time delay	*Alternative time delay (if available)*
	Blocking behaviour	*unchanged*
	Permanent switching	*Terminate perm ON*
Presets (Preset 3)	*Brightness threshold*	*unchanged*
	Time delay	*normal time delay*
	Blocking behaviour	*unchanged*
	Permanent switching	*unchanged*

Table 28: theLuxa slave devices

Parameter page	Parameters	Setting
General	*Activate motion channel C1*	*yes*
Motion channel C1: Function	*Operating mode*	*Slave*
	Retrigger time	*1 min.*

Table 29: Meteodata 140 GPS

Parameter page	Parameters	Setting
General	*Device version*	*with GPS module*
Set date and time	*Send time and set date*	*every hour*

Table 30: RMG 8 T

Parameter page	Parameters	Setting
General	*Type of basic module*	*RMG 8 T*
Basic module RMG 8 T	*Channel C1 function*	*Switch actuator*
RMG 8 T channel C1: Configuration options	*Channel function*	*Switching ON/OFF*

5.3 Staircase lighting with standby light

A staircase should be monitored.
The spatial conditions only allow for a monitoring area without gaps by using many motion detectors.
In order to reduce the expenses, only one detector will be used on each floor, and the standby function will be used as the warning prior to switch-off.
After the time delay has elapsed, the light will remain switched on for another 5 minutes at a brightness of 20 % (standby), before it is switched off completely.

With sufficient brightness (daylight), the lighting will remain off.

One device functions as master in parallel switching (M) and sends the switch commands to the dimming actuator.
The others function as a slave (S1, S2 etc.), and only report detected motion.

5.3.1 Devices:

- theLuxa P300 KNX (Order no. 1019610 / 1019611)
- DMG 2 T (Order no. Nr. 4930270)

5.3.2 Overview

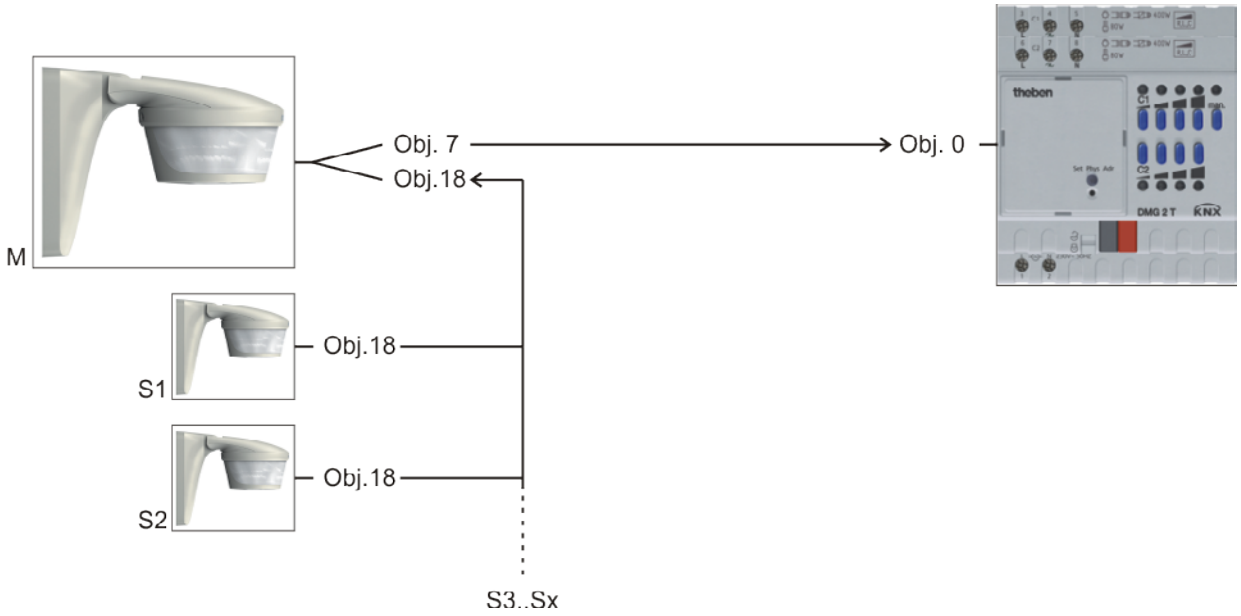

Figure 4

5.3.3 Objects and links

Table 31

No.	theLuxa P300 KNX Master device (M)	No.	DMG 2 T	Comment
	Object name		Object name	
7	*C1 dimming dimming value*	0	*DMG 2 T channel C1 dimming value*	theLuxa sends the dimming value to the dimming actuator

Table 32:

No.	theLuxa P300 KNX Slave devices (S1, S2 etc.)	No.	theLuxa P300 KNX Master device (M)	Comment
	Object name		Object name	
18	*C1 Parallel switching*	18	*C1 Parallel switching*	The slave devices cyclically report each detected motion to the master device.

5.3.4 Important parameter settings

Standard or customer-defined parameter settings apply for unlisted parameters.

Table 33: theLuxa master device

Parameter page	Parameters	Setting
General	*Activate motion channel C1*	*yes*
Motion channel C1: Function	*Operating mode*	*Master in parallel switching*
	Type of lighting	*Dimming*
Brightness settings	*Brightness threshold value*	*50 lx*
Time settings	*Time delay*	*5 min.*
Dimming	*Dimming value during ON phase*	*100 %*
	Dimming value during standby phase	*20 %*
	Standby time	*5 minutes*
	Dimming value when OFF	*0 %*

Table 34: theLuxa slave devices

Parameter page	Parameters	Setting
General	*Activate motion channel C1*	*yes*
Motion channel C1: Function	*Operating mode*	*Slave*
	Retrigger time	*1 min.*

Table 35: DMG 2 T

Parameter page	Parameters	Setting
General	*Type of basic module*	*DMG 2 T*

6 APPENDIX

6.1 Conversion of percentages to hexadecimal and decimal values

Table 36

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.