Technical Manual

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KNX Motion Detector 2.2 m TS 55

PSE-B552T0x.02

Further documents:

Datasheet:
https://www.mdt.de/EN_Downloads_Datasheets.html

Assembly and Operation instructions:
https://www.mdt.de/EN_Downloads_Instructions.html

Solution proposals for MDT products:
https://www.mdt.de/en/for-professionals/tips-tricks.html

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2 Overview

2.1 Overview devices

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

- **PSE-B552T01.02** KNX Motion Detector 2.2 m TS 55, Pure white matt
- **PSE-B552T02.02** KNX Motion Detector 2.2 m TS 55, Pure white gloss
- **PSE-B552T06.02** KNX Motion Detector 2.2 m TS 55, Black matt

2.2 Functions

2 Light channels
Both or only one of the pyro detectors can be assigned to each light channel. Each channel is configured separately to obtain two completely independent outputs. For example, the follow-up times for “Day” and “Night”, the trigger and presence sensitivity, and the lock and unlock behaviour can be set individually.

HVAC channel
Compared to the light channels, the separate HVAC channel (heating, ventilation, air conditioning) has adjustable monitoring time slots that can be used to monitor the presence in the room. For example, to control the ventilation of a room.

Alarm/Message channel
The alarm channel has a separate sensitivity setting and is used to detect motion in the event of absence. Monitoring can be activated by object.

Direction of Movement
The MDT Motion Detector is able to recognize the direction of a movement. This means, for example, that the light can be switched off early if movement is detected in the direction of the exit.

Integrated white LED light
The integrated white LED light can be switched via the “Day/Night” object, in “Night” mode when motion is detected in a defined light channel, or via an external object.

Fully automatic, half automatic, manual mode
Configured as “fully automatic”, the motion detector switches on when a motion is detected and switches off again after the end of the presence and set follow-up time. In the “half automatic” operating mode, the light must be switched on manually via an object and the motion detector switches off automatically after the end of the presence and the follow-up time. Regardless of the operating mode, manual operation is possible at any time via the objects “External button short” and “External button long”.

Temperature sensor
When the temperature sensor is activated, the room temperature can be sent to the bus and, for example, used for heating control. The transmission behaviour of the measured value and a correction value can be parametrised.

Brightness sensor
A brightness sensor is integrated to allow different switch-on levels to be configured for “Day” and “Night” mode.

Scenes
A total of 8 scenes are available to the Motion Detector. Each scene can be assigned extensive and different functions for light channels 1 and 2.

Logic
Four logics can be activated using the AND, OR and XOR functions. Each logic can be linked to up to two internal and up to four external 1 Bit objects. Switching commands, scenes, values or 2 Bit priority objects can be sent as output objects.

Updateable
If necessary, the device can be updated using the “MDT Firmware Update App”.

Long Frame Support
The Device supports “long frames” (longer telegrams). These contain more user data per telegram, which significantly reduces the programming time.

2.3 Wiring diagram

The following figure shows an exemplary wiring diagram:

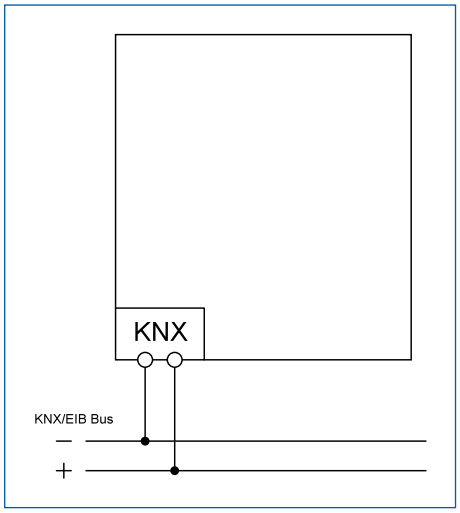


Figure 1: Wiring diagram

2.4 Structure and handling

The following pictures show the structure of the device:

Figure 2: Structure and handling

1 – KNX Bus connection terminal
2 – Programming button
3 – State and Programming LED (red)
4 – State LED (green)
5 – Brightness sensor
6 – White LED
S1 – Motion sensor 1
S2 – Motion sensor 2

2.5 Commissioning

1. Wire the device according to the wiring diagram.
2. Connect programming interface to the bus.
3. Switch on bus voltage.
4. Press the programming button (red programming LED lights up continuously).
5. Set and programme the individual address in the ETS (programming LED turns off).
6. Configure and programme the settings in the application programme.

3 Communication objects

3.1 Standard setting of the communication objects

Standard settings – Light channels								
No.	Name	Object function	Length	C	R	W	T	U
0	Light channel 1 - Output 1	Switch	1 Bit	■	■		■	
0	Light channel 1 - Output 1 (Day)	Switch	1 Bit	■	■		■	
0	Light channel 1 - Output 1	Dimming absolute	1 Byte	■	■		■	
0	Light channel 1 - Output 1	Scene	1 Byte	■	■		■	
1	Light channel 1 - Output (Night)	Switch	1 Bit	■	■		■	
2	Light channel 1 - Output 2 (Additional)	Switch	1 Bit	■	■		■	
3	Light channel 1 – Input	External button short	1 Bit	■		■		
4	Light channel 1 – Input	External button long	1 Bit	■		■		
5	Light channel 1 – Input	External motion (Slave)	1 Bit	■		■		
6	Light channel 1 – Input	Status of actuator channel	1 Bit	■		■		
7	Light channel 1 – Input	Lock motion detection	1 Bit	■		■		
8	Light channel 1 – Input	Forced guidance	2 Bit	■		■		
8	Light channel 1 – Input	Lock object	1 Bit	■		■		
9	Light channel 1 – Input	Lock object ON	1 Bit	■		■		
10	Light channel 1 – Status	Automatic mode	1 Bit	■	■		■	
10	Light channel 1 – Status	Lock/Manual mode	1 Bit	■	■		■	
11	Light channel 1 – Input	Switch dark	1 Bit	■		■		
12	Light channel 1 – Input	Teach-in dimming value for ON	1 Byte	■	■	■		
13	Light channel 1 – Input	Follow-up time 10 - 65000 s	2 Byte	■	■	■		
+15	**Light channel 2 ...**							

Table 1: Communication objects – Standard settings: Light channels

Standard settings – HVAC channel								
No.	Name	Object function	Length	C	R	W	T	U
60	HVAC - Output	Switch	1 Bit	■	■		■	
60	HVAC - Output	Dimming absolute	1 Byte	■	■		■	
60	HVAC - Output	Scene	1 Byte	■	■		■	
63	HVAC - Input	External button short	1 Bit	■		■		
64	HVAC - Input	External button long	1 Bit	■		■		
65	HVAC - Input	External motion	1 Bit	■		■		
66	HVAC - Input	Status of actuator channel	1 Bit	■		■		
67	HVAC - Input	Lock motion detection	1 Bit	■		■		
68	HVAC - Input	Forced guidance	2 Bit	■		■		
68	HVAC - Input	Lock object	1 Bit	■		■		
69	HVAC - Input	Lock object ON	1 Bit	■		■		
70	HVAC - Status	Automatic mode	1 Bit	■	■		■	
70	HVAC - Status	Lock/Manual mode	1 Bit	■	■		■	
72	HVAC - Input	Teach-in dimming value for ON	1 Byte	■	■	■		
73	HVAC - Input	Follow-up time 10 - 65000 s	2 Byte	■	■	■		

Table 2: Communication objects – Standard settings: HVAC channel

Standard settings – Alarm/Message channel / Direction of movement								
No.	Name	Object function	Length	C	R	W	T	U
75	Alarm - Output	Switch	1 Bit	■	■		■	
75	Alarm - Output (Day)	Switch	1 Bit	■	■		■	
76	Alarm - Output (Night)	Switch	1 Bit	■	■		■	
83	Alarm - Input	Lock	1 Bit	■		■		
83	Alarm - Input	Release	1 Bit	■		■		
101	Direction of movement 1	Switch when moving from right to left	1 Bit	■	■		■	
102	Direction of movement 2	Switch when moving from left to right	1 Bit	■	■		■	

Table 3: Communication objects – Standard settings: Alarm/Message channel / Direction of movement

Standard settings – LED								
No.	Name	Object function	Length	C	R	W	T	U
91	LED green	Switch	1 Bit	■		■		
92	LED red	Flashing	1 Bit	■		■		
93	LED white	Switch	1 Bit	■		■		

Table 4: Communication objects – Standard settings: LED

Standard settings – Scenes								
No.	Name	Object function	Length	C	R	W	T	U
94	Scene	Input	1 Byte	■		■		

Table 5: Communication objects – Standard settings: Scene

Standard settings – Brightness								
No.	Name	Object function	Length	C	R	W	T	U
97	Brightness	Send measured value	2 Byte	■	■		■	
98	Brightness	Set switch on-threshold for light channels	1 Bit	■	■	■		

Table 6: Communication objects – Standard settings: Brightness

Standard settings – Temperature								
No.	Name	Object function	Length	C	R	W	T	U
130	Temperature	Send measured value	2 Byte	■	■		■	

Table 7: Communication objects – Standard settings: Temperature

Standard settings – Logic								
No.	Name	Object function	Length	C	R	W	T	U
110	Logic 1	Input C	1 Bit	■		■	■	■
111	Logic 1	Input D	1 Bit	■		■	■	■
112	Logic 1	Input E	1 Bit	■		■	■	■
113	Logic 1	Input F	1 Bit	■		■	■	■
114	Logic 1	Output 1	1 Bit 2 Bit 1 Byte	■	■		■	
+5	**next Logic**							

Table 8: Communication objects – Standard settings: Logic

Standard settings – General settings								
No.	Name	Object function	Length	C	R	W	T	U
90	Day/Night	Day = 0 / Night = 1	1 Bit	■		■	■	■
90	Day/Night	Day = 1 / Night = 0	1 Bit	■		■	■	■
95	In operation	Output	1 Bit	■	■	■		

Table 9: Communication objects – Standard settings: General settings

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

4 ETS Parameter

4.1 General settings

The following table shows the available settings:

ETS Text	Dynamic range **[Default value]**	Comment
Send “In operation” cyclically	**not active** 1 min – 24 h	Activation of an object and setting the sending interval.
Day/Night object	■ not active ■ active, not request ■ **request after reset**	Setting whether and how the day/night object is used.
Value for Day/Night	■ **Day = 1 / Night = 0** ■ Day = 0 / Night = 1	Setting the polarity of the “Day/Night” object. **Only if “Day/Night object” is active.**
Toggle Day/Night	■ at next presence ■ **directly on switchover**	Setting when the Day/Night switchover should take effect. **Only if “Day/Night object” is active.**
Basic settings: Sensitivity		
Trigger sensitivity “Day”	0 – 8 **[6]**	Setting the trigger sensitivity
Trigger sensitivity “Night”	0 – 8 **[3]**	
Presence sensitivity	1 – 10 **[8]**	Setting the sensitivity when presence is detected.
Basic settings: Brightness		
Switch-on threshold “Day”	5 Lux ... 1000 Lux **[100 Lux]**	Setting the value below which the sensor is active.
Switch-on threshold “Night”	5 Lux ... 1000 Lux **[10 Lux]**	
Switch off when exceeding	■ **not active** ■ active	Setting whether an OFF telegram should be sent when a certain brightness threshold is exceeded.
Switch OFF when exceeding ...	75 Lux ... 1000 Lux **[800 Lux]**	Setting the threshold value from when the sensor sends an OFF telegram. **Only if “Switch-off in exceedance” is active.**

ETS Text	Dynamic range **[Default value]**	Comment
Fallback of forced guidance/lock	■ **not active** ■ after presence and follow-up time ■ after fixed time	Activation of a time for fallback from forced guidance or lock respectively.
Follow-up time for forced guidance/lock “Day”/”Night”	1 s – 9 h **[3 min]**	Setting a follow-up time for day/night mode. **Only for “after presence and follow-up time”.**
Fallback time for forced guidance/lock “Day”/”Night”	1 s – 9 h **[10 min]**	Setting a fallback time for day/night mode. **Only for “after fixed time”.**
Fallback for external button long (Manual => Auto)	■ not active ■ **after presence and follow up time** ■ after fix time	Activation of a time for fallback from override via an “external button ...” object.
Manual Mode, follow-up time for ON/OFF “Day”/ “Night”	1 s – 9 h **[3 min]**	Setting a follow-up time in manual mode for ON/OFF in Day and Night mode respectively. **Only for “after presence and follow-up time”.**
Manual Mode, fallback time for ON/OFF “Day”/ “Night”	1 s – 9 h **[10 min]**	Setting a fallback time in manual mode for ON/OFF in Day and Night mode respectively. **Only for “after fixed time”.**

Table 10: General settings

Send “Operating” cyclically
The “Operating” object is used to show on the bus that the device is alive. If activated, an “ON” telegram is sent cyclically.

Day/Night object
After the Day/Night object has been activated, the polarity can be specified using “Value for Day/Night”. Regardless of this polarity, the device always starts in “Day” operation after reprogramming. You can also specify whether the “Day/Night” Object should be requested after bus power return.

Toggle Day/Night
This is used to specify whether the Day/Night switchover is to be adopted immediately with the input telegram or not until the next time motion (presence) is detected.

Basic setting: Sensitivity
The sensitivity of the sensors is set here. “0” means lowest level, the higher the value, the more sensitive the sensors become. This setting influences the detection range. If the value is set low, movement is only detected relatively close to the detector. If the value is set to “8”, for example, movement is already detected at a greater distance from the detector.

Basic setting: Brightness
This allows a specific operating range to be specified for the Presence Detector. The parameters “**Switch-on threshold “Day” / “Night””** defines the brightness threshold below which the detector detects presence. Above this threshold, no more movement is detected, but the detector does not switch off the light as soon as the brightness is exceeded; instead, the follow-up time runs normally.
The set threshold value can be changed via object “Set switch-on threshold for light channels”. The value always applies to the current operation. If the detector is in Day mode, the threshold for “Day” is changed. If the detector is in Night mode, the threshold for “Night” is changed.
Activation of the “**Switch off when exceeding**” parameter causes the light channel to switch off immediately when the set value under “**Switch OFF when exceeding ...**“ is reached. The value should not be set too low, however, as this could result in the light channel switching ON/OFF continuously.
Example: If the detector switches ON and the brightness in the room with the light switched on is brighter than the “Switch OFF when exceeding ...” value, the channel switches off again immediately.
Note: The switch-off value must be greater than 50% of the highest switch-on threshold.

Fallback of forced guidance/lock
If the detector is in a certain state via forced guidance or lock, it can be defined whether it should fall back into automatic mode “**after a fixed time**”.
With the setting “**after presence and follow-up time**”, the presence in the room continues to be detected during forced guidance/lock. If there is now no one in the room and the follow-up time of the channel has elapsed, the set “**Manual mode follow-up time...**” starts from this point, after which the detector switches back to automatic mode.

Fallback: External button long (Manual => Auto)
If the detector is switched to manual mode via “**External button long**”, a fallback to automatic mode “after fixed time” or “after presence and follow-up time” can also be achieved here. The procedure corresponds to the description in the previous point “Fallback of forced guidance/lock”.
Note: ”External button short” is interpreted as movement and starts the follow-up time (adjustable in the channel), “External button long” switches to manual operation.

The following table shows the associated communication objects:

No.	Name/Object function	Length	Usage
90	Day/Night – Day = 1 / Night = 0 Day = 0 / Night = 1	1 Bit	Switchover between Day and Night mode according to the set polarity.
95	In operation – Output	1 Bit	Sending a cyclical telegram.

Table 11: Communication objects – General settings

4.2 Selection of channels

Two Light channels, one HVAC channel and one Alarm/Message channel can be activated. A separate menu appears for each activated channel.
The Light channels and the HVAC channel are described in the following chapter. The Alarm/Message channel is described in a separate chapter, see 4.2.2.1 Alarm/Message channel.

The following table shows the available settings:

ETS Text	Dynamic range **[Default value]**	Comment
Light channel 1	■ not active ■ **active**	Activation/deactivation of the channel.
Light channel 2	■ **not active** ■ active	Activation/deactivation of the channel.
HVAC channel	■ **not active** ■ active	Activation/deactivation of the channel.
Alarm/Message channel / Direction of movement	■ **not active** ■ active	Activation/deactivation of the channel and recognition of the direction of movement.

Table 12: Settings – Selecting channels

4.2.1 Light channel / HVAC channel

Light channels and HVAC channel differ only in a few “individual” parameters. Therefore, these channels are described simultaneously below.

4.2.1.1 Basic settings – Light channel

☑ Light channel

The following table shows the available settings:

ETS Text	Dynamic range **[Default value]**	Comment
Active sensors	■ - - ■ 1 - ■ - 2 ■ **1 2**	Setting which sensors are active for this channel.
Information about sensor assignment	☐	When activated (check box selected with a mouse click), a graphic appears with information about the positions of sensors S1 and S2.
Position of sensors	Displaying a graphic	
Sensitivity	■ **basic settings (General setting)** ■ individual	Setting that determines the sensitivity (triggering, presence) with which the channel operates.
Only if „Sensitivity“ → „individual“		
Trigger sensitivity “Day”	0 – 8 **[6]**	Setting the trigger sensitivity.
Trigger sensitivity “Night”	0 – 8 **[3 (low)]**	
Presence sensitivity	0 – 10 **[8 (high)]**	Setting the sensitivity when motion is detected.
Brightness	■ **basic setting or object “Switch dark” is active** ■ independent of brightness	Setting how the channel should react to brightness.
Channel mode	■ **fully automatic** ■ half automatic (manual switching)	Setting the operating mode.
Motion filter in standby	■ **not active, no filtering** ■ active, filter short motions	Activation of a motion filter in standby (= output is switched off). **Only in “fully automatic” mode.**
Reduction of follow-up time	■ **not active** ■ active	Setting whether a shortening of the follow-up time should be activated.
Maximum duration for short time presence	10 s – 30 s **[20 s]**	Setting the maximum duration for a short-term presence.

ETS Text	Dynamic range **[Default value]**	Comment
Follow-up time for short time presence	10 s – 120 s **[60 s]**	Setting the follow-up time for short-term presence.
Follow-up time “Day”	1 s – 4 h **[3 min]**	Setting the follow-up time for Day/ Night mode.
Follow-up time “Night”	1 s – 4 h **[30 s]**	

Table 13: Basic settings – Light channel

Active sensors
The active sensors can be set for each light channel. This allows the detection range of the channel to be limited. For example, if only one area in a corridor is to be detected, only one sensor can be activated. The alignment of the sensors can be identified by activating the “Information about sensor assignment” parameter.

Sensitivity
With “**basic settings**”, the values from the “General settings” menu refer.
With the “**individual**” setting, the values for the sensitivities for the channel can be set manually. The parameters correspond to those in the “General settings” menu.

Brightness
With “**basic setting or object “Switch dark” is active**”, brightness refers to the settings in “General setting” menu. However, this can become brightness-independent via the “Switch dark” object with a “1” and thus switches at any brightness.
No threshold applies via the “**independent of brightness**” setting and the channel always switches.

Channel operating mode

- **Fully automatic:** Light channel responds if a presence is detected and switches the output. After the follow-up time has elapsed, the channel switches off again.
- **Half automatic:** In this mode, the light channel is switched on via the “External push button short” object. The light channel then remains switched on up to the point when no more presence is detected. After the follow-up time has elapsed, the light channel then automatically switches off again.

Follow-up time
This parameter describes the time that elapses after the last detection of a movement until the output is switched off. The follow-up time can be set differently for Day/Night. For example, with a follow-up time of 3 minutes, the light would be switched on for at least 3 minutes if motion was detected. Each new detection leads to a re-triggering and thus a restart of the follow-up time.

Reduction of follow-up time
If activated, two further parameters are displayed:

- **Maximum duration for short-time presence:** Indicates the duration between the first and the last movement detection to activate the short-time presence.
- **Follow-up time for short-time presence:** Indicates the duration of the follow-up time when the short-time presence was activated.

If the first and last movement was detected within the set duration for short-time presence when short-time presence was activated, the output is not switched on for the regular follow-up time, but only for the follow-up time of the short-time presence.

Object: “Lock motion detection”
The “Lock motion detection” object, which is permanently displayed, deactivates motion detection for this light channel. In comparison to a lock via the lock object, the light channel can still be operated manually via internal and external button functions.

The following table shows the associated communication objects:

No.	Name/Object function	Length	Usage
6	Light channel 1 - Input – Status of actuator channel	1 Bit	Response from the actuator’s status output.
7	Light channel 1 - Input – Lock motion detection	1 Bit	Locks motion detection for this light channel.
11	Light channel 1 - Input – Switch dark	1 Bit	Operates the light channel independent of brightness.
13	Light channel 1 - Input – Follow-up time 10 - 65000 s	2 Byte	Sets the follow-up time via an external object.
+15	**Light channel 2 ...**		

Table 14: Communication objects – Basic settings: Light channel

4.2.1.2 Basic settings – HVAC channel

☑ HVAC channel

The following table shows the available settings:

ETS Text	Dynamic range **[Default value]**	Comment
Active sensors	■ - - ■ 1 - ■ - 2 ■ 1 2	Setting which sensors are active for this channel.
Information about sensor assignment	☐	When activated (check box selected with a mouse click), a graphic appears with information about the positions of sensors S1 and S2.
Position of sensors	Displaying a graphic	
Channel mode	■ **fully automatic** ■ half automatic (manual switching)	Setting the operating mode.
Number of monitoring time slots	1 – 30 **[3]**	Setting for how many time slots are active. **Only in channel mode “fully automatic”.**
Length of monitoring time slot	0 s ... 30000 s **[30 s]**	Setting the length of the time slots. **Only in channel mode “fully automatic”.**
Follow-up time “Day”	1 s – 4 h **[3 min]**	Setting the follow-up time for Day/Night mode.
Follow-up time “Night”	1 s – 4 h **[30 s]**	

Table 15: Settings – Basic settings: HVAC channel

Active sensors
The active sensors can be set for each channel. This allows the detection range of the channel to be limited. For example, if only one area in a corridor is to be detected, only one sensor can be activated. The alignment of the sensors can be identified by activating the **“Information about sensor assignment”** parameter.

Channel operating mode
- **Fully automatic:** HVAC channel responds if a presence is detected and switches the output. After the follow-up time has elapsed, the channel switches off again.
- **Half automatic:** In this mode, the HVAC channel is switched on via the “External push button short” object. The HVAC channel then remains switched on up to the point when no more presence is detected. After the follow-up time has elapsed, the light channel then automatically switches off again.

Monitoring time slot
Presence must be detected at least once within a specified time in one or more monitoring time slot in order to switch the channel output. This avoids the output being switched if there is only a short detection.

The **“Number of monitoring time slots”** and the **“Length of the monitoring time slot”** can be set individually.

Follow-up time
This parameter describes the time that elapses after the last detection of a movement until the output is switched off. The follow-up time can be set differently for Day/Night. For example, with a follow-up time of 3 minutes, the light would be switched on for at least 3 minutes if motion was detected. Each new detection leads to a re-triggering and thus a restart of the follow-up time.

Object “Lock motion detection”
The “Lock motion detection” object, which is permanently displayed, deactivates motion detection for this HVAC channel. In comparison to a lock via the lock object, the channel can still be operated manually via internal and external button functions.

The following table shows the associated communication objects:

No.	Name/Object function	Length	Usage
66	HVAC channel - Input – Status of actuator channel	1 Bit	Response from the actuator’s status output.
67	HVAC channel - Input – Lock motion detection	1 Bit	Motion detection lock to this channel.
73	HVAC channel - Input – Follow-up time 10 - 65000 s	2 Byte	Sets the follow-up time via an external object.

Table 16: Communication objects – Basic settings: HVAC channel

4.2.1.3 Forced guidance/Lock object

☑ Light channel
☑ HVAC channel

The following table shows the available settings:

ETS Text	Dynamic range **[Default value]**	Comment
Forced guidance or lock object	■ forced guidance object (2 Bit) ■ **lock object** ■ lock object and lock object ON	Setting whether a forced guidance object or which lock objects should be used.
Action on locking	■ **lock motion (lock current state)** ■ switch ON ■ switch OFF	Defines the status that is to be sent during locking. **Only if "Lock object" is selected.**
Fallback of forced guidance/lock (General setting)	■ **not active** ■ active	Setting whether the channel should react to "Fallback forced guidance/lock" in the menu "General settings".

Table 17: Settings – Forced guidance / Lock object

Functional principle:

The device can be overridden with the forced guidance/lock object and call up a certain status.
The **forced guidance object** knows 3 possible states:

- **Forced guidance ON** (control = 1, value = 1)
  The command for "ON" is sent unconditionally to the output object. The evaluation is then stopped and the release time for forced guidance begins. If nothing is received on the forced guidance object after the release time has expired, normal operation is resumed.
- **Forced guidance OFF** (control = 1, value = 0)
  The command for "OFF" is sent unconditionally to the output object. The evaluation is then stopped and the release time for forced guidance begins. If nothing is received on the forced guidance object after the release time has expired, normal operation is resumed.
- **Forced guidance AUTO** (control = 0, value = 0)
  Deactivate forced guidance. The detector will resume to normal operation.

As an alternative to the forced guidance object, 1 or 2 locking objects of size 1 Bit can be displayed.
3 different states can be configured for the lock object:

- **Lock motion (lock current state)**
  The channel is locked in its current state and remains locked until the locking process is deactivated.
- **Switch ON**
  The channel switches ON and remains in this state until the locking process is deactivated.
- **Switch OFF**
  The channel switches OFF and remains in this state up to when the locking process is deactivated.

By activating the object "Lock object ON", the channel sends the output value ON and remains in the ON state until the locking process is deactivated.

With the parameter "**Fallback of forced guidance/lock (General settings)**", it is possible to set individually for each channel whether it should react to the configuration for "Fallback of forced guidance/lock" in the "General settings".

The following table shows the associated communication objects:

No.	Name/Object function	Length	Usage
8	Light channel 1 - Input – Lock object	1 Bit	Locking the light channel.
8	Light channel 1 - Input – Forced guidance	2 Bit	Activate/deactivate forced guidance.
9	Light channel 1 - Input – Lock object ON	1 Bit	Switch on the light channel and locking the light channel in the ON state.
+15	**Light channel 2 ...**		
68	HVAC - Input – Lock object	1 Bit	Locking the HVAC channel.
68	HVAC - Input – Forced guidance	2 Bit	Activate/deactivate forced guidance.
69	HVAC - Input – Lock object ON	1 Bit	Switch on the HVAC channel and locking the light channel in the ON state.

Table 18: Communication objects – Forced guidance / Lock objects

4.2.1.4 Output objects

☑ Light channel
☑ HVAC channel

The following table shows the available settings:

ETS Text	Dynamic range **[Default value]**	Comment
Object type for output – Light Object type for output – HVAC	■ **Switch** ■ Dimming absolute ■ Scene	Selection of the object type that is sent when a motion is detected.
Output 2 (Additional switch object)	■ **not active** ■ ON and OFF	Activation of an additional switch object. **Only available for "Light channels".**

Table 19: Settings – Output objects

Object type for output
The parameter defines the datapoint type of the output object.

Output 2 (Additional switch object)
In addition, a separate switch object can be activated - regardless of the object type. This is always a 1 Bit object. If, for example, a dimming value is sent as output object 1, a 1 Bit telegram can also be sent via output 2 to control a status LED or similar.

Note: This object is only available for light channels!

4.2.1.4.1 Output object: Switch

☑ Light channel
☑ HVAC channel

The following table shows the available settings:

ETS Text	Dynamic range **[Default value]**	Comment
Only for Light channel 1/2		
Output objects for Day/ Night	■ one common object ■ separate objects	Setting for whether to send via one or two objects.
Only for HVAC channel		
Object value for “Day” when ON	■ Value “0” ■ **Value “1”**	Setting the value to be sent for the corresponding operation.
Object value for “Day” when OFF	■ **Value “0”** ■ Value “1”	
Object value for “Night” when ON	■ Value “0” ■ **Value “1”**	
Object value for “Night” when OFF	■ **Value “0”** ■ Value “1”	

Table 20: Settings – Output object: Switch

Light channels
If “**one common object**” is selected, the output sends to one object, regardless of whether it is in Day or Night mode. The sent object value can not be inverted.
With “**separate objects**”, 2 switch objects are displayed - one for Day mode and one for Night mode. For example, the main light can be switched on in Day mode and a small night light in Night mode.

HVAC channel
There is only one output here. The object values for the corresponding operation are defined directly.

The following table shows the associated communication objects:

No.	Name/Object function	Length	Usage
0	Light channel 1 - Output 1 – Switch	1 Bit	Switching function for Day and Night mode.
0	Light channel 1 - Output 1 (Day) – Switch	1 Bit	Switching function for Day mode.
1	Light channel 1 - Output (Night) – Switch	1 Bit	Switching function for Night mode.
2	Light channel 1 - Output 2 (Additional) – Switch	1 Bit	Switching function with an additional object.
+15	**Light channel 2 ...**		
60	HVAC - Output – Switch	1 Bit	Switching function of the HVAC channel.

Table 21: Communication objects – Output object: Switch

4.2.1.4.2 Output object: Dimming absolute

☑ Light channel
☑ HVAC channel

The following table shows the available settings:

ETS Text	Dynamic range **[Default value]**	Comment
Dimming value for “Day” when ON	0 % – 100 % **[100 %]**	Setting the value for the dimming function in Day and Night mode.
Dimming value for “Day” when OFF	0 % – 100 % **[0 %]**	
Dimming value for “Night” when ON	0 % – 100 % **[30 %]**	
Dimming value for “Night” when OFF	0 % – 100 % **[0 %]**	
Orientation light for leaving	■ **switch-off immediately** ■ other dimming value and switch-off delay	Setting whether the light goes out directly or an night light should be activated.
If “other dimming value and switch-off delay”		
Switch-off delay for “Day”	not active, 1 s – 60 min **[30 s]**	Setting for whether and at what time the switch-off is delayed in Day mode.
Switch-off dimming value for “Day”	0 % – 100 % **[30 %]**	Setting a dimming value.
Switch-off delay for “Night”	not active, 1 s – 60 min **[30 s]**	Setting for whether and at what time the switch-off is delayed in Night mode.
Switch-off dimming value for “Night”	0 % – 100 % **[20 %]**	Setting a dimming value.

Table 22: Settings – Output object: Dimming absolute

Note: For the light channels, an additional “Switch” object can be activated.

Dimming values for Day/Night when ON/OFF
These parameters are used to specify the corresponding absolute values which the channel sends after detection has occurred or after the follow-up time has elapsed.

Teach-in dimming value for ON
This can be used to specify new values externally via an object:

- **Day-mode:** If the channel is in Day mode, the “Dimming value for “Day” when ON” is changed.
- **Night-mode:** If the channel is in Night mode, the “Dimming value for “Night” when ON” is changed.

Orientation light for leaving

- **Switch-off immediately:** The light is switched off immediately.
- **Other dimming value and switch-off delay:** With this function, the light is not switched off immediately after the follow-up time has elapsed, but is first switched to an adjustable dimming value. The OFF command is only sent after the switch-off delay has elapsed. The delay time and dimming value can vary for “Day” and “Night” mode.

The following table shows the associated communication objects:

No.	Name/Object function	Length	Usage
0	Light channel 1 - Output 1 – Dimming absolute	1 Byte	Sending an absolute dimming value.
2	Light channel 1 - Output 2 (Additional) – Switch	1 Bit	Additional switching function of the light channel.
12	Light channel 1 - Input – Teach-in dimming value for ON	1 Byte	Presetting a new dimming value when switch-on.
+15	**Light channel 2 ...**		
60	HVAC - Output – Dimming absolute	1 Byte	Sending an absolute dimming value.
72	HVAC - Input – Teach-in dimming value for ON	1 Byte	Presetting a new dimming value when switch-on.

Table 23: Communication objects – Output object: Dimming absolute

4.2.1.4.3 Output object: Scene

☑ Light channel
☑ HVAC channel

The following table shows the available settings:

ETS Text	Dynamic range **[Default value]**	Comment
Scene Number for “Day” when ON	not active, 1 – 64 **[1]**	Activation and specification of the scene number in Day and Night mode.
Scene Number for “Day” when OFF	not active, 1 – 64 **[2]**	
Scene Number for “Night” when ON	not active, 1 – 64 **[3]**	
Scene Number for “Night” when OFF	not active, 1 – 64 **[4]**	

Table 24: Settings – Output object: Scene

Note: For the light channels, an additional “Switch” object can be displayed.

Function description
The scene numbers for Day/Night if ON/OFF are used to specify the corresponding scene which the channel sends after a detection or after the follow-up time has elapsed.

The following table shows the associated communication objects:

No.	Name/Object function	Length	Usage
0	Light channel 1 - Output 1 – Scene	1 Byte	Sending a Scene number.
2	Light channel 1 - Output 2 (Additional) – Switch	1 Bit	Additional switching function of the light channel.
+15	**Light channel 2 ...**		
60	HVAC - Output – Scene	1 Byte	Sending a Scene number.

Table 25: Communication objects – Output object: Scene

4.2.1.4.4 Sending conditions for output objects

☑ Light channel
☑ HVAC channel

Important: Parameters for the sending conditions are only available in “fully automatic” operating mode!

The following table shows the available settings:

ETS Text	Dynamic range **[Default value]**	Comment
If “Object type for output Light/HVAC” → “switch”		
Output object 1 sends	■ only ON ■ only OFF ■ **ON and OFF**	Setting the sending filter.
Output object 1 sends ON cyclically	**not active** 10 s – 60 min	Setting the sending interval.
Output 2 (Additional switch object)	■ **not active** ■ ON and OFF	Activation of output 2 **Only for “Light channel”.**
If “Object type for output Light/HVAC” → “dimming absolute”		
Output object 1 sends	■ only dimming value for ON ■ only dimming value for OFF ■ **dimming value for ON and OFF**	Setting the sending filter.
Output object 1 sends value for ON cyclically	**not active** 10 s – 60 min	Setting the sending interval.
Output 2 (Additional switch object)	■ **not active** ■ ON and OFF	Activation of output 2 **Only for “Light channel”.**
If “Object type for output Light/HVAC” → “scene”		
Output object 1 sends	■ only scene number for ON ■ only scene number value for OFF ■ **scene number for ON and OFF**	Setting the sending filter.
Output object 1 sends scene for ON cyclically	**not active** 10 s – 60 min	Setting the sending interval.
Output 2 (Additional switch object)	■ **not active** ■ ON and OFF	Activation of output 2 **Only for “Light channel”.**

Table 26: Settings – Sending conditions for output objects

“Output object 1 sends” determines which value (according to the set object type) is to be sent.

“Output object 1 sends ... ON cyclically” is used to set whether and at what interval the output object for “ON” is to be sent cyclically.

Via **“Output 2 (Additional switch object)”,** an additional 1 Bit switch object can be activated for the light channels.
Important: If output object 1 sends cyclically, output 2 (if active) is also sent cyclically at the same interval.

4.2.1.5 External button short/long

☑ Light channel
☑ HVAC channel

The following table shows the available settings:

ETS Text	Dynamic range **[Default value]**	Comment
External button short reacts to	■ only ON ■ only OFF ■ **ON and OFF** ■ toggle on telegram input	Selection of which telegrams are valid for the external button short.
External button long reacts to	■ only ON ■ only OFF ■ **ON and OFF** ■ toggle on telegram input	Selection of which telegrams are valid for the external button long.
Only for “button short”		
If Night light is active	■ switch to Day light ■ **remains on Night light**	Setting what should happen when external button is shortly pressed while Night light is active.
If output “Day” is already on	■ remains in automatic mode ■ **switch to manual mode**	Setting the operating mode when output is already ON for “Day”. **Only with „switch to Day light“.**
If output is already on	■ remains in automatic mode ■ **switch to manual mode**	Setting the operating mode when the output is already ON. **Only with „remains on Night light“.**

Table 27: Settings – External button short/long

Object “External button short”
is used to change the state of the Light channel manually, or to switch on the Light channel in half-automatic mode.

Object “External button long”
is used to manually switch the light channel ON/OFF.

The external button input can be used to switch on the light/HVAC channel independently of a motion detection.

The exact procedures for the “external button short/long” are explained in more detail in chapter 4.2.1.8 Process diagrams .

The parameters for idle time are described in the following section 4.2.1.6 Idle time

The following table shows the associated communication objects:

No.	Name/Object function	Length	Usage
3	Light channel 1 - Input – External button short	1 Bit	Object for the input of an external button.
4	Light channel 1 - Input – External button long	1 Bit	Object for the input of an external button.
+15	**Light channel 2 ...**		
63	HVAC - Input – External button short	1 Bit	Object for the input of an external button.
64	HVAC - Input – External button long	1 Bit	Object for the input of an external button.

Table 28: Communication objects – External button short/long

4.2.1.6 Idle time

☑ Light channel
☑ HVAC channel

The following table shows the available settings:

ETS Text	Dynamic range **[Default value]**	Comment
Idle time after external button short is off	1 s ... 30 s **[5 s]**	Setting of the time for which the motion detector is locked for further detection after it has been switched off via “external button short”.
Idle time after switch off	1 s ... 30 s **[1 s]**	Setting the time for which the motion detector is locked for further detection after the follow-up time has expired.

Table 29: Settings – Idle time

Idle time after external button short is off
This parameter is useful, for example, to leave the room briefly after switching OFF via the “external button short” without avoiding a renewed switching ON of the light by detection.

4.2.1.7 Status information

☑ Light channel
☑ HVAC channel

The following table shows the available settings:

ETS Text	Dynamic range **[Default value]**	Comment
Status information	■ **not active** ■ send value “1” for automatic mode ■ send value “1” for lock/manual mode	Activation of a status object.

Table 30: Settings – Status information

When activated, a status object is available in each case.

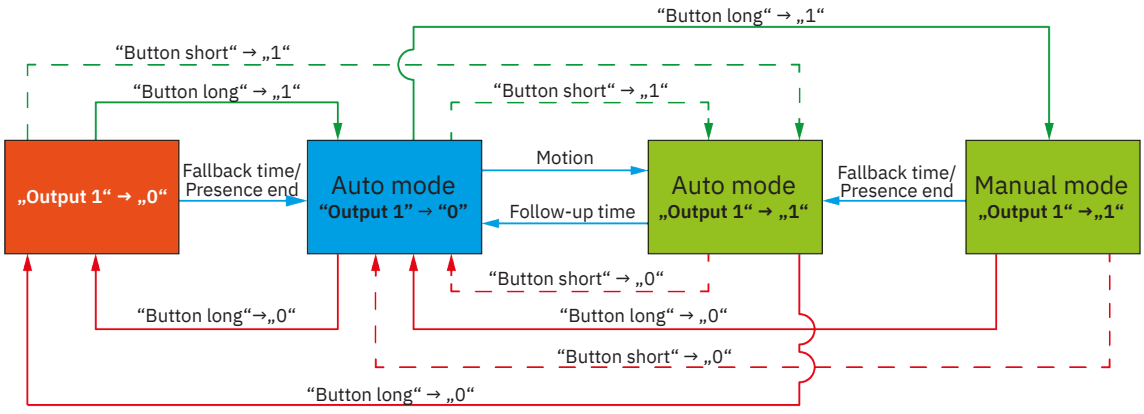
The following table shows the associated communication objects:

No.	Name/Object function	Length	Usage
10	Light channel 1 - Status – Automatic mode	1 Bit	Sends the current status.
10	Light channel 1 - Status – Lock/Manual mode	1 Bit	Sends the current status.
+15	**Light channel 2 ...**		
70	HVAC - Status – Automatic mode	1 Bit	Sends the current status.
70	HVAC - Status – Lock/Manual mode	1 Bit	Sends the current status.

Table 31: Communication objects – Status information

4.2.1.8 Process diagrams

4.2.1.8.1 Fully automatic without night light



States:

Manual mode, OFF: The output is switched OFF, the device has been switched OFF manually.

Auto mode, Standby: The output is switched OFF, the device switches ON automatically when motion is detected.

Auto mode, ON: The output is switched ON, the device switches OFF automatically when the follow-up time expires.

Manual mode, ON: The output is switched ON, the device has been switched ON manually.

State transitions:

Button OFF: Sending an OFF telegram to object “External button short”.

Button ON: Sending an ON telegram to object “External button short”.

Motion: Presence detector detects motion.

Follow-up time: Expiry of the follow-up time set in the light channel.

Fallback time / Presence end: Expiry of the fallback time set in the general settings for the external button input.

Button long: Activates / deactivates manual mode.

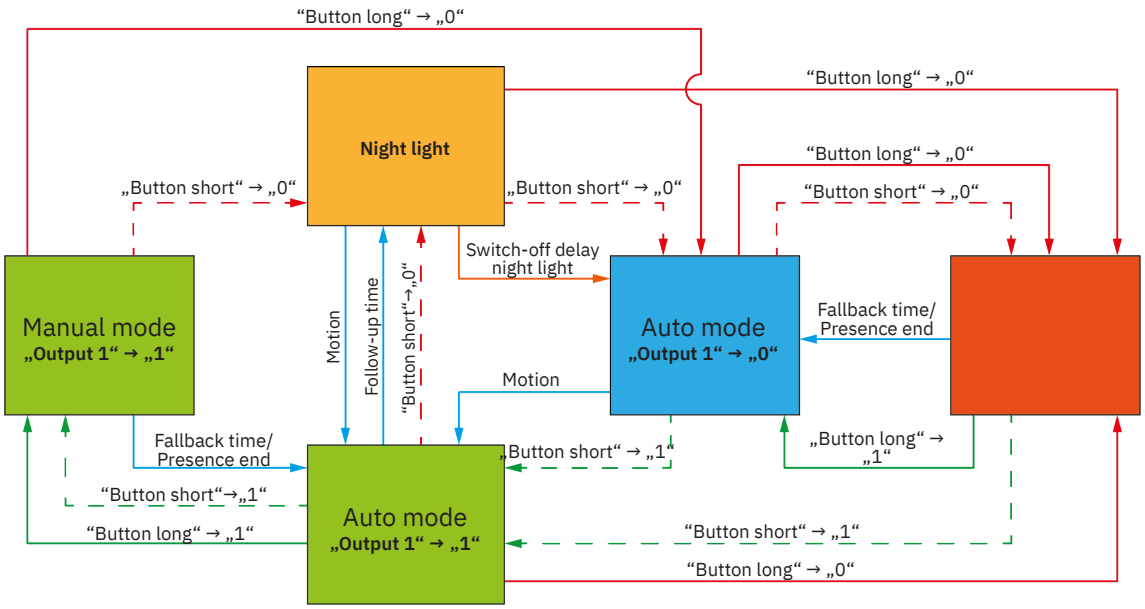
Figure 3: Process diagram – Fully automatic without night light

In the operating mode “Fully automatic” the Motion Detector switches on automatically when motion is detected. The object “External push button short” can be used to overwrite the automatic mode and force the device into manual mode. From this mode, the detector automatically returns to auto mode according to the settings in the menu “General settings - Fallback for external push button long”.

If the output of the light channel is switched on (automatic mode - ON or manual mode - ON) and the light channel is switched off via the object “External push button short”, then the light channel is blocked for 10 seconds for motion detection in order to leave the room and prevent brief restart.

The detector can be switched to manual mode via the object “External push button long”. From this mode, the detector automatically returns to auto mode according to the settings in the “General settings - Fallback for external push button long”.

4.2.1.8.2 Fully automatic with night light



States:

Manual mode, OFF: The output is switched OFF, the device has been switched OFF manually.

Auto mode, Standby: The output is switched OFF, the device switches ON automatically when motion is detected.

Auto mode, ON: The output is switched ON, the device switches OFF automatically when the follow-up time expires.

Manual mode, ON: The output is switched ON, the device has been switched ON manually.

Night light: The output switches to the dimming value of the night light.

State transitions:

Button OFF: Sending an OFF telegram to object "External button short".

Button ON: Sending an ON telegram to object "External button short".

Motion: Presence detector detects motion.

Follow-up time: Expiry of the follow-up time set in the light channel.

Fallback time / Presence end: Expiry of the fallback time set in the general settings for the external button input.

Button long: Activates / deactivates manual mode.

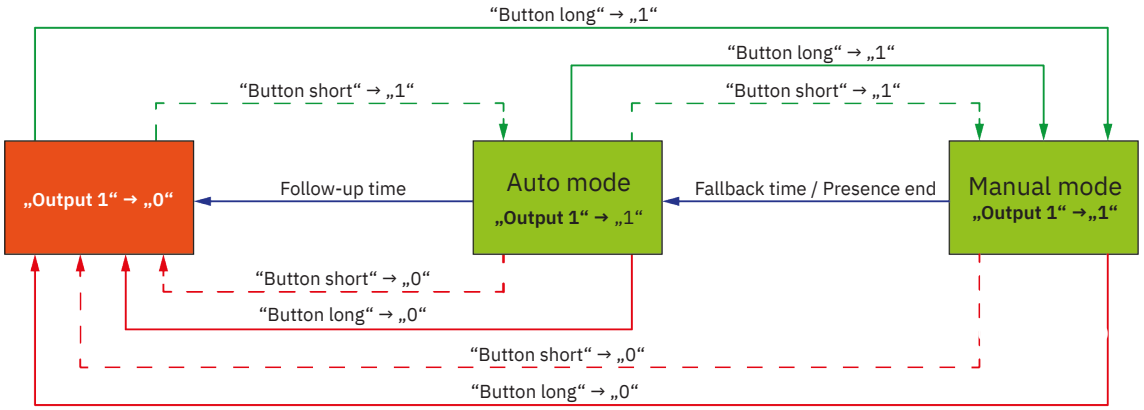
Switch-off delay orientation light: Set switch-off delay with active night light.

Figure 4: Process diagram – Fully automatic with night light

The operating mode "fully automatic with night light" extends the operating mode fully automatic by the status night light. The night light can be activated as soon as the "Object type for output - Light" parameter is set to "Dimming absolute".

The night light is switched on as soon as the follow-up time of the light channel has elapsed. The output is then switched to the night light state and can therefore dim the light to a darker level in order to leave the room safely.

4.2.1.8.3 Half automatic without night light



States:

OFF: The output is switched OFF and must be switched ON manually.

Auto mode ON: The output is switched ON, the device switches OFF automatically at the end of the follow-up time.

Manual mode ON: The output is switched ON, the device has been switched ON manually.

State transitions:

Button OFF: Sending an OFF telegram to object “External button short”.

Button ON: Sending an ON telegram to object “External button short”.

Follow up time: Expiry of the follow-up time set in the light channel.

Fallback time / Presence end: Expiry of the fallback time set in the general settings for the external button input.

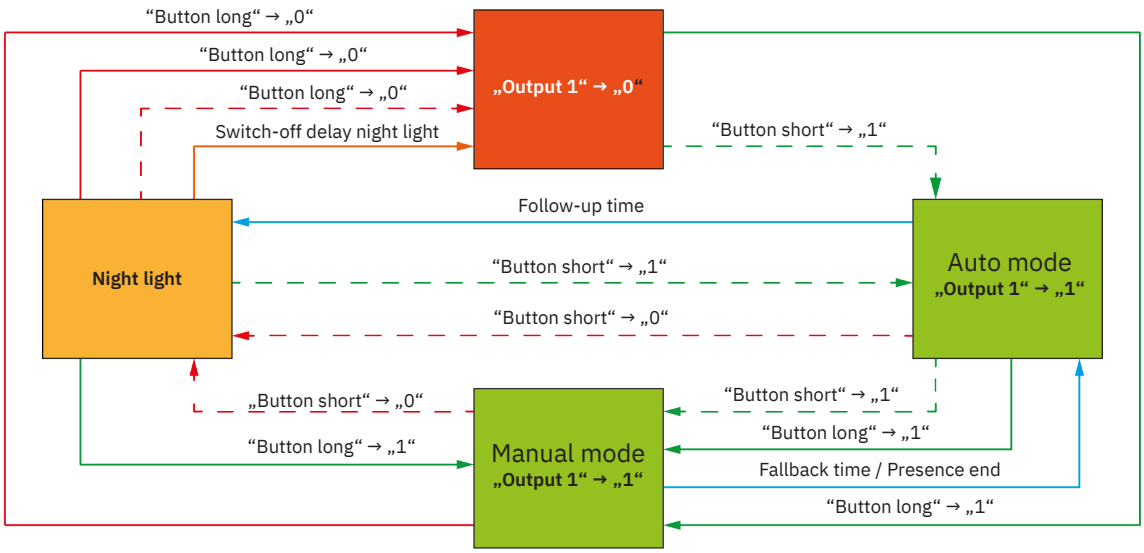
Button long: Activates/deactivates manual mode.

Figure 5: Process diagram – Half automatic without night light

In the operating mode “half automatic”, the motion detector has to be switched on manually via the object “external push button short”. The light channel is automatically switched off again after the follow-up time (= no movement detection during the set follow-up time) has elapsed.

The light channel can also be overwritten via the “external button short” object. The motion detector can be switched to manual mode by pressing twice.

4.2.1.8.4 Half automatic with night light



States:

OFF: The output is switched OFF and must be switched ON manually.

Auto mode ON: The output is switched ON, the presence detector switches OFF automatically at the end of the follow-up time.

Manual mode ON: The output is switched ON, the presence detector has been switched ON manually.

Night light: The output switches to the dimming value of the night light.

State transitions:

Button OFF: Sending an OFF telegram to object "External button short".

Button ON: Sending an ON telegram to object "External button short".

Follow up time: Expiry of the follow-up time set in the light channel.

Fallback time / Presence end: Expiry of the fallback time set in the general settings for the external button input.

Button "long ON/OFF":
Activates/deactivates manual mode.

Switch-off delay night light: Set switch-off delay when the night light is active.

Figure 6: Process diagram – Half automatic with night light

The operating mode "half-automatic with night light" extends the operating mode half-automatic by the night light state. The night light can be activated as soon as the "Object type for output - Light" parameter is set to "Dimming absolute".
The night light is switched on as soon as the follow-up time of the light channel has elapsed. The output is then switched to the night light state and can therefore dim the light to a darker level in order to leave the room safely.

4.2.1.9 Master-Slave operation

The following is a short description of the settings. For more details, there is a suggested solution on our website "https://www.mdt-group.com/for-professionals/tips-tricks.html" under „Presence Detector".

4.2.1.9.1 Light channels

In larger rooms, the use of a single motion detector is often not sufficient. In order to detect motion in every corner of the room, several detectors have to be used throughout the entire room. Here, however, a detected motion should always lead to the same settings regardless of the corner of the room in which the presence was detected. For this purpose, one detector is switched as master and any number of others as slaves.
The settings for the master-slave control are made in the menu of the respective light channels.

The master is configured as desired as a fully or half-automatic unit.
A value of 3-5 minutes is recommended for the follow-up time.

Slaves are set as follows:

- "Brightness" → "**independent of brightness**".
- "Channel operating mode" → "**fully automatic**".
- "Follow-up time Day/Night" → smaller than the delay time in the master (e.g., 1 minute).
- "Object type for output – light" → "**Switch**".
- "Output object sends → "**only ON**".
- "Output object sends ON cyclically" → A value of 30 seconds is recommended.

The "slaves" send their output object for "switch" to the "external motion (slave)" object of the master.

The following table shows the associated communication object:

No.	Name/Object function	Length	Usage
5	Light channel 1 - Input – External motion (Slave)	1 Bit	Input object for additional slave motion detector.
+15	**Light channel 2 ...**		

Table 32: Communication objects – Light channels: Master / Slave operation

4.2.1.9.2 HVAC channel

The master-slave control can also be applied to the HVAC channel. The settings for the "slave" are the same as for the slaves for the lighting groups. However, the settings for the brightness values are omitted for the HVAC channel. The observation windows are to be set according to the individual requirements.

Important: As long as the slave is in its follow-up time, it cyclically sends a "1" to the master. After the last "1" has been sent to the master, the master's follow-up time elapses before the master switches off its output. In this case, the follow-up time of the master and slave are added up.

The following table shows the associated communication object:

No.	Name/Object function	Length	Usage
65	HVAC - Input – External motion	1 Bit	Input object for additional slave motion detector.

Table 33: Communication objects – HVAC - Channel: Master / Slave operation

4.2.2 Alarm/Message channel / Direction of movement

The Detection channel function can be used to monitor a room in case of absence and to call up certain actions in the KNX system when motion is detected.

Important: The Alarm/Message channel is always brightness independent.

4.2.2.1 Alarm/Message channel

The following table shows the available settings:

ETS Text	Dynamic range **[Default value]**	Comment
Active sensors	■ - - ■ 1 - ■ - 2 ■ **1 2**	Setting which sensors are active for this channel.
Information about sensor assignment	☐	When activated (check box selected with a mouse click), a graphic appears with information about the positions of sensors S1 and S2.
Position of sensors	Displaying a graphic	
Trigger sensitivity “Day”	0 – 6 **[3]**	Setting the trigger sensitivity.
Trigger sensitivity “Night”	0 – 6 **[2]**	
Presence sensitivity	1 – 8 **[6]**	Setting the sensitivity when presence is detected.
Interference / motion filter	■ **not active, no filtering** ■ active, filter interference / short motions	Activation of a motion filter in standby (= output is switched off).
Only if “Interference / motion filter” → “active, filter interferences / short motions”		
Length of monitoring time slots	1 ... 5 s **[2 s]**	Setting the time for how long a time window is open for detection.
Number of monitoring time slots	2 ... 5 **[3]**	Setting how many time windows are open for detection.
Follow-up time “Day”	1 s – 4 h **[3 min]**	Setting the follow-up time in day mode.
Follow-up time “Night	1 s – 4 h **[30 s]**	Setting the follow-up time in night mode.

ETS Text	Dynamic range **[Default value]**	Comment
Lock or release object	■ **lock object** ■ release object	Setting whether a locking or release object is to be used.
Fallback of forced guidance/lock (General settings)	■ **not active** ■ active	Setting whether the channel should react to “Fallback forced guidance/lock” in the menu “General settings”. **Only available with “lock object”.**
Output objects for Day/Night	■ **one common object** ■ separate objects	Setting whether “Day” and “Night” should be sent via one object or separate objects.
Output object sends at	■ only ON ■ **ON and OFF**	Output filter for the first output object.
Object sends cyclically every ...	**not active** 10 s - 60 min	Activation of cyclic sending and an the interval for the output object.

Table 34: Settings – Alarm/Message channel

Active sensors
The active sensors can be set for detection channel. This allows the detection range of the channel to be limited. For example, if only one area in a corridor is to be detected, only one sensor can be activated. The alignment of the sensors can be identified by activating the “Information about sensor assignment” parameter.

Trigger sensitivity “Day” / “Night”
These parameters describe the sensitivity in standby mode (the output is switched off, no motion has been detected).

Presence sensitivity
This parameter is used to set the sensitivity in presence mode (the output is switched on, motion has already been detected).

Interference / Motion Filter
To avoid false detections, a interference and motion filter can be activated that filters out very short motions, e.g. caused by drafts. If this filter is activated, the parameters **“Length of monitoring time slot”** and “**Number of monitoring time slots”** can be set.
This has the effect that a longer detection is required for switching on. To switch on the channel, at least one detection must have occurred in each of the set observation time windows. For example, if there are three observation time slots, each with a length of 2 seconds, at least one detection must occur in the first 2 seconds, at least one detection in the second 2 seconds and at least one detection in the third 2 seconds.
If the motion filter is not activated, a detection will occur if there is only one motion with the sensitivity set accordingly.

Follow up time
This time defines the switch-off delay that expires after the last motion detection up to the switch-off of the output. Thus, with a follow-up time of 3 min, the signalling channel would be switched on for at least 3 min if motion is detected. Each new detection restarts the follow-up time. This time can be set to different values for Day and Night.

Lock/Release object
This parameter can be used to set which of the two objects will be active. The lock object switches the channel off with a “1”. The release object activates the channel with a “1”. If the parameter is configured as a lock object, it is possible to switch the channel ON or OFF with the parameter **“Fallback of forced guidance/lock”** whether or not the channel should respond to the “Fallback of forced guidance/lock” configuration in the “General settings” menu.

Output objects for “Day” / “Night”
This is where you can set whether to switch via a common object or separate objects for Day and Night. Separate objects can be used, for example, to execute a different action for Day than for Night.

Output object sends at
This parameter can be used to activate a sending filter for the output. This filter is used to specify whether the channel should only send “ON” telegrams or if it should send “ON” and “OFF” telegrams.

Object sends cyclically every ...
This object influences whether and at what intervals the output object sends its value cyclically at an interval to be defined.

The following table shows the associated communication objects:

No.	Name/Object function	Length	Usage
75	Alarm - Output – Switch	1 Bit	Sending an alarm (common object).
75	Alarm - Output (Day) – Switch	1 Bit	Sending an alarm in day mode.
76	Alarm - Output (Night) – Switch	1 Bit	Sending an alarm in night mode.
83	Alarm - Input – Lock	1 Bit	Locking the Alarm/Message function.
83	Alarm - Input – Release	1 Bit	Releasing the Alarm/Message function.

Table 35: Communication objects – Alarm/Message channel

4.2.2.2 Direction of movement

The following table shows the available settings:

ETS Text	Dynamic range **[Default value]**	Comment
Direction of movement	■ not active ■ **active**	Activation of “direction of movement” detection.
Installation site	■ **corridor** ■ room	Setting where the motion detector is mounted.

Table 36: Settings – Direction of movement

Direction of movement detection allows the device to detect the direction in which a person is moving.

Installation site
The setting is used to adjust the behaviour of the detection. For example, the “room” setting filters out frontal motion more than the “corridor” setting. The “corridor” setting should be used for elongated rooms. The direction of motion detection shows the best results in this installation location and configuration.

Note: An active lock of the channel has no effect on the detection of the direction of movement!

The following table shows the associated communication objects:

No.	Name/Object function	Length	Usage
101	Direction of movement 1 – Switch when moving from right to left	1 Bit	The object sends a 1 when first the right sensor detects motion and then the left one.
102	Direction of movement 2 – Switch when moving from left to right	1 Bit	The object sends a 1 when first the left sensor detects motion and then the right one.

Table 37: Communication objects – Direction of movement

4.3 LED

The following table shows the available settings:

ETS Text	Dynamic range **[Default value]**	Comment
LED green	■ not active ■ **active on motion** ■ active on motion, only during “Day” ■ active via external object ■ active via external object, flashing	Setting for how the green LED is controlled.
Light channel 1	■ not active ■ **active**	Setting for which light channel the green LEDs should react. **Only if „... on motion ...“.**
Light channel 2	■ **not active** ■ active	
LED red, object „LED Rot flashing“	■ **not active** ■ active	Activation of an object to control the red LED.
LED white	■ **not active** ■ active at “Night” and on motion (light channel 1) ■ active at “Night” and on motion (light channel 2) ■ active at “Night” and on motion (light channel 1 and 2) ■ active at “Night” via external object “Switch” ■ always ON at “Night”	Setting for whether and how the white LED (e.g., as a night light / orientation light) is switched on.
Brightness at “Night”	0 % – 100 % **[10 %]**	Defines the brightness value at which the white LED switches on. **Only if „active at “Night” ...“.**
Light channel 1		
Display “manual mode ON” with green LED	■ not active ■ **active**	Setting whether the green/red LED should indicate the status (Light channel 1 only) for manual operation.
Display “manual mode OFF” with red LED”	■ not active ■ **active**	
Display “lock/forced guidance ON” with green LED	■ not active ■ **active**	Setting whether the green/red LED should indicate the status (Light channel 1 only) for forced guidance.
Display “lock/forced guidance OFF” with red LED	■ not active ■ **active**	

Table 38: Settings – LED

LED white
The white LED can be configured as a night light (orientation light) as follows:

- **active at “Night” and when motion (light channel x):** In Night mode, the LED is switched via detection of the corresponding light channel. Value configurable.
- **active at “Night”, via external object “switch”:** The LED can be switched in Night mode via the associated 1 Bit object. Value configurable.
- **always ON at “Night”:** The LED is always switched on in Night mode. Value configurable.

Note: If the white LED is active, the brightness value is not evaluated.

The following table shows the associated communication objects:

No.	Name/Object function	Length	Usage
91	LED green – Switch	1 Bit	The LED is controlled via an external object. **Only if “LED green” → “... via external object”.**
92	LED red – Flashing	1 Bit	The LED is controlled via an external object.
93	LED white – Switch	1 Bit	The LED is controlled via an external object. **Only if “LED white” → „... via external object “switch”.**

Table 39: Communication objects – LED

4.4 Scenes

The scene function can be used to trigger actions for the light channels involved by receiving the corresponding scene numbers.

Important: Scenes are only available for Light channels and not for the HVAC channel or Alarm channel. Actions can only be set for Light channels that have been activated in the “Channel selection” menu.

The following table shows the available settings:

ETS Text	Dynamic range **[Default value]**	Comment
Scene A - H number	**not active** 1 – 64	Setting the scene number.
Scene A - H Light channel 1 / 2	■ **not active** ■ lock active, ON ■ lock active, OFF ■ lock active ■ lock disable (last state) ■ lock disable, OFF ■ set external button short to value “1” ■ set external button short to value “0” ■ set external button long (manual mode) to value “1” ■ set external button long (manual mode) to value “0” ■ set object Day/Night to “Day” (for all channels) ■ set object Day/Night to “Night” (for all channels)	Setting the action to be executed when a scene is called up.

Table 40: Settings – Scenes

The following table shows the associated communication objects:

No.	Name/Object function	Length	Usage
94	Scene – Input	1 Byte	Call up of a predefined scene.

Table 41: Communication objects – Scenes

4.5 Brightness

The following table shows the available settings:

ETS Text	Dynamic range **[Default value]**	Comment
Light channels influence the brightness measurement	■ **yes (several lights in the room)** ■ no (separate functions)	Setting whether the brightness measurement is influenced by several light sources in the room or not.
Correction value	-50 % – 70 % **[0 %]**	Increase/decrease the value to correct the measured brightness.
Send brightness on change of	not active, 5 % – 50% **[10 %]**	Setting if the measured value is sent when there is a percentage change.
Send measured value cyclically	**not active** 5 s – 30 min	Setting for whether and at what interval the measured value is sent cyclically.

Table 42: Settings – Brightness

Important: If the white LED is active, the brightness value is not evaluated.

Light channels influence the brightness measurement

- **Example for "yes" setting:** Light channels 1 and 2 respond to the basic setting for brightness (General settings) and switch on two independent light sources in the room. If, for example, light channel 1 is switched on via an external button and the brightness value of the switch-on level is exceeded, the other channel will automatically be "independent of brightness" and can thus also switch on their lamps via motion.
- **Example for "no" setting**: If several light sources are switched in a stairwell with a detector, but these have no influence on each other due to their positions (e.g. indirect LED lighting), both light groups can be set to the "basic setting" of the switch-on threshold. If it is now bright due to daylight and the switch-on level is exceeded, then every indirect LED light should no longer switch on.

Correction value

This offset value is used to raise or lower the actual measured value. The "Brightness – Send measured value" object sends the corrected brightness value.

Note: The correction value is entered as a percentage. A setting of -10% will lower the value to be sent by 40 lux if the measured value is 400 lux.

Sending functions
The **“Send brightness on change of”** parameter specifies whether and, on what percentage change, the current measured value is sent. If the setting is “not active”, the sensor will not send a value, regardless of the change.
The **“Send measured value cyclically”** parameter can be used to specify whether and at what interval the current measured value is sent cyclically.

Note: The sending functions can be activated or deactivated independently of each other. If both parameters are deactivated, no value will be sent.

Object “Set switch-on threshold for light channels”
This object can be used to send a brightness switch-on threshold to the device via the bus. This value replaces the “Switch-on level for Day/Night” specified under “General settings” for the active Day/Night mode. After a bus voltage failure, the device will resume operation with the preset values. The object is shown permanently.

The following table shows the associated communication objects:

No.	Name/Object function	Length	Usage
97	Brightness – Send measured value	2 Byte	Sends the brightness sensor measurement value
98	Brightness – Set switch-on threshold for light channels	2 Byte	Receives a value for the global switch-on threshold light channels.

Table 43: Communication objects – Brightness

4.6 Temperature

Using the internal temperature sensor, the current temperature of the room can be recorded and output to the bus.

The following table shows the available settings:

ETS Text	Dynamic range **[Default value]**	Comment
Temperature measurement	■ **not active** ■ active	Activation of the temperature measurement.
Send measured value on change of	not active, 0,1 K – 1 K **[0,2 K]**	Setting at which change the measured value is to be sent.
Send measured value cyclically	**not active** 1 min – 120 min	Setting whether and at what interval the measured value is to be sent cyclically.
Correction value for sensor	-80 ... 50 x 0,1 K **[0 K]**	Setting of the value by which the temperature is corrected.

Table 44: Settings – Temperature

Sending functions
The **"Send measured value on change of"** parameter specifies whether and, on what change, the current measured value is sent. If the setting is "not active", the sensor will not send a value, regardless of the change.
The **"Send measured value cyclically"** parameter can be used to specify whether and at what interval the current measured value is sent cyclically.

Note: The sending functions can be activated or deactivated independently of each other. If both parameters are deactivated, no value will be sent.

Correction value for sensor
Here a offset value can be entered. This is used to increase/decrease the actual measured value. The temperature sensor sends the corrected temperature value when this function is activated.

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

The following table shows the associated communication objects:

No.	Name/Object function	Length	Usage
130	Temperature – Send measured value	2 Byte	Sends the current temperature value.

Table 45: Communication objects – Temperature

4.7 Logic

4.7.1 Activation of the logic function

The following table shows the available settings:

ETS Text	Dynamic range **[Default value]**	Comment
Logic function 1 - 4	■ **not active** ■ active	Activation of the respective logic function.
Request inputs after bus power return	■ **not active** ■ active	Setting whether the inputs should be actively requested after bus voltage recovery.

Table 46: Settings – Activation of the logic function

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

4.7.2 Logic settings

There are 2 text fields available:

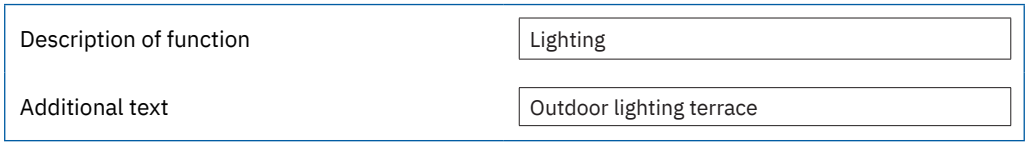


Figure 7: Logic – Text fields: Description and additional text

Texts with up to 40 characters can be stored for both fields.
The text entered for the "**Description of function**" appears in the menu behind the corresponding logic as well as with the communication objects of the logic.

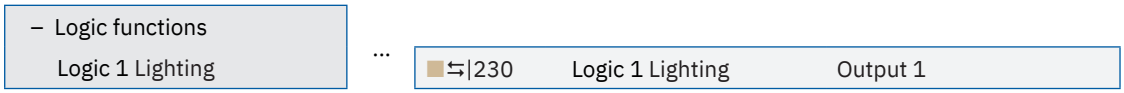


Figure 8: Logic – Presentation of the description

The "**Additional text**" is merely additional information to the logic. This is not visible anywhere else.

Up to 4 different logic functions can be implemented. Each logic function can link and evaluate up to 2 internal objects and up to 4 external objects. The sending behaviour of the output can be adjusted via the sending condition.

The following table shows the available settings:

ETS Text	Dynamic range **[Default value]**	Comment
Function	■ **AND** ■ OR ■ XOR	Setting of the logic function.
Output object	■ **switch** ■ scene ■ value ■ forced guidance 2 Bit	Setting the output object for the logic.
Settings if “Output object” → „Switch“		
Sending condition	■ on input telegram ■ **on change of output** ■ send only “0” on change of output ■ send only “1” on change of output ■ send only “0” on input telegram ■ send only “1” on input telegram	Setting the condition according to which the output should send.
Output	■ **normal** ■ inverted	Defines how the output object is sent.
Settings if “Output object” → „Scene“		
Sending condition	■ on input telegram ■ **on change of output** ■ send only scene for “False” on change of output ■ send only scene for “True” on change of output ■ send only scene for “False” on input telegram ■ send only scene for “True” on input telegram	Setting the condition under which the output is sent.
Scene number for output value “False”/”True”	not active, 1 – 64 **[1]**	Set the scene to be sent.

ETS Text	Dynamic range **[Default value]**	Comment
Settings if “Output object” → „Value“		
Sending condition	■ on input telegram ■ **on change of output** ■ send only value for “False” on change of output ■ send only value for “True” on change of output ■ send only value for “False” on input telegram ■ send only value for “True” on input telegram	Setting the condition under which the output is sent.
Datapoint type	■ **1 Byte DPT 5.005 Decimal factor (0...255)** ■ 1 Byte DPT 5.001 Percent value (0...100%)	Setting the data point type for the value to be sent.
Value for output value “False”/”True”	0 ... 255 **[0]**	Setting the value to be sent. **Only with DPT 5.005**
Percent value for output value “False”/”True”	0 % – 100 % **[0%]**	Setting the value to be sent. **Only with DPT 5.001**
Settings if “Output object” → „Forced guidance“		
Sending condition	■ on input telegram ■ **on change of output** ■ send only value for “False” on change of output ■ send only value for “True” on change of output ■ send only value for “False” on input telegram ■ send only value for “True” on input telegram	Setting the condition under which the output is sent.
Forced guidance for output value “False”/”True”	■ **00 - no priority, Off** ■ 01 - no priority, On ■ 10 - priority, Off ■ 11 - priority, On	Setting the value to be sent.
Settings: Inputs		
Internal Input A/B	■ **not active** ■ normal ■ inverted	Activation of an internal object as a logic input and setting whether it should be used normally or inverted.

ETS Text	Dynamic range **[Default value]**	Comment
Object number	0 ... 129 **[0]**	Selection of the internal object that is active as an input for the logic.
External input C-F	■ **not active** ■ normal ■ inverted	Activation of an external object as a logic input and setting whether it should be used normally or inverted.
Preset logic input after reset with ...	■ **value “0”** ■ value “1”	Setting the value with which an input is to be pre-assigned after bus voltage recovery.

Table 47: Settings – Logic

The “**Sending conditions**” are explained as follows (the texts vary depending on the source object):

- **on input telegram:** The output value is sent with every input telegram, regardless of whether the output value has changed or not.
- **on change of output:** The output value is only sent if the output has changed.
- **send only “0”/”1” / Value/Scene for “False”/”True” on change of output:** The output value is only sent if the output changes and the logic has the corresponding value (0/1).
- **send only “0”/”1” / Value/Scene for “False”/”True” on input telegram:** Output value is sent with every input telegram and the logic has the corresponding value (0/1).

Internal inputs can be connected to all existing objects on the device.

Important: Only Bit values can be evaluated correctly.

External inputs can only be linked with 1 Bit objects.

Note: In the event of a reset (bus voltage failure/recovery), the external inputs are in an undefined state. In this case, the inputs can be pre-assigned with values (1/0) in order to maintain the function of the logic. These values refer up to valid values from the external objects (e.g. status messages).

The following table shows the associated communication objects:

No.	Name/Object function	Length	Usage
110	Logic 1 – Input C	1 Bit	External input for the logic function.
+1	**Logic 1 – Input D-F**		
114	Logic 1 – Output 1		Output of the logic function. DPT depending on the output object parameter.
+5	**Next Logic**		

Table 48: Communication objects – Logic

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6 Appendix

6.1 Statutory requirements

The devices described above must not be used in conjunction with devices which directly or indirectly serve human, health, or life-safety purposes. Furthermore, the devices described must not be used if their use may cause danger to people, animals, or property.
Do not leave the packaging material carelessly lying around. Plastic foils/ bags etc. can become a dangerous toy for children.

6.2 Disposal

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

6.3 Assembly

Danger to life from electric current!

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

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

Use in the USA and Canada is prohibited!

6.4 History

V 1.0	First version of the technical manual	DB V 4.4	07/2025