



IR 180 KNX



HF 180 KNX

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IR/HF 180 KNX Application Description

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Application description for presence detectors with constant-lighting control

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1. Detector functions

IR 180 KNX: the PIR presence detector with constant-lighting control comprises a passive infrared (PIR) motion detector with integrated light-level sensor, integrated IR receiver and integrated red light-emitting diode (LED) for indicating a movement detected in the test mode.

HF 180 KNX: the HF presence detector with constant-lighting control comprises a high-frequency (HF) motion detector with integrated light-level sensor, integrated IR receiver and integrated red light-emitting diode (LED) for indicating a movement detected in the test mode.

The HF presence detector for wall mounting is distinguished from a PIR presence detector (PIR – Passive Infrared) by its

- better detection of radial movements,
- immunity to heat sources in the detection zone.

The IR or HF detector is capable of performing the following functions:

1.1 Presence detection

1.2 Lighting control

1.3 HVAC control

The function to be used (activated) is defined via the "General Settings" parameter window using the Engineering Tool Software (ETS) version ETS3.f and higher.

Each of the detector functions provide the capability of setting a period after which a detected movement is to result in activation of the function concerned and also of setting a period after which the function concerned is to be deactivated again after detecting the last movement.

The lighting controller immediately switches light ON when anyone enters the room in the dark but only switches it OFF again some time after the last person leaves. If a person returns to the room shortly after leaving it (because, for example, that person has forgotten something), the room is still illuminated, saving the need to switch the light back ON again. The "stay-ON time" can either be determined by the detector automatically (IQ mode) or set to a fixed period.

As it takes a long time to heat or cool a room whose HVAC systems have been switched to energy-saving mode while it is not being used, activation and deactivation of the comfort mode is delayed. Briefly entering a room is not to result in the HVAC systems being activated immediately. The appropriate "switch-ON delay" can either be matched automatically by the detector to the time users are present in the room (room surveillance) or it can be set to a fixed period. Briefly leaving the room does not result in the HVAC systems being switched OFF either. The associated "stay-ON time" can be set to a fixed period.

1.1 Presence detection:

This function watches over a room. A signal is sent out as soon as a person's presence has been reliably detected. A signal is also sent out as soon as the presence of persons is no longer being detected. This surveillance function can, for example, be disabled during the day and only enabled for a specific duration at night as well as over the weekend.

1.2 Lighting control:

In the "switching mode", this function switches lighting (switchable only) ON and OFF in relation to presence and light level. Selecting "constant-lighting control" instead of "switching mode" for dimmable room lighting automatically switches light ON and dims it to the pre-selected level when persons are present in the room and the level of light measured is below the level set. If daylight is sufficient to illuminate the room, lighting is dimmed down or switched OFF completely if not needed.

The light level measured by the light-level sensor integrated in the detector can be transmitted via the bus.

1.3 HVAC control:

This function can be used for automatically switching room heating, ventilation and air-conditioning systems (HVAC) from "energy-saving mode" or "pre-comfort mode" when the room is not being used to "comfort mode" when it is being used and back to "pre-comfort mode" or "energy-saving mode" when persons have finished using the room.

2. Presence detector operating modes

One of the following operating modes must be assigned to the presence detector:

- Single detector,
- Master,
- Slave,
- Master in parallel mode.

2.1 Single detector:

No other presence detectors are installed in the room apart from the presence detector operating as "single detector".

2.2 Master:

If required, presence detectors can be connected to the "master" via the bus as "slaves" to extend the detection zone. The master ascertains "overall presence", i.e. whether a person is present in at least one of the detection zones (and therefore in the entire room), controls lighting, heating, ventilation and HVAC for the entire room and sends the relevant objects.

2.3 Slave:

A presence detector operating as a "slave" only delivers "presence ON" information to the master. This means only a few parameters need setting for a slave.

2.4 Master in parallel mode:

If a presence detector is operated as a "master in parallel mode", additional presence detectors can be connected as "slaves" to extend the detection zone. The "master in parallel mode" carries out its own lighting control and sends the current presence status to the "master". The "master" then controls the HVAC control unit.

3. Constant-lighting control

Constant-lighting control turns lighting to the light-level setting by dimming actuators or switching/dimming actuators (depending on lamp type), with it being possible to adjust the level of lighting via a parameter or a communication object. A parameter can be used for selecting whether to use only one dimmable lighting group for illuminating the room or whether to provide as many as four dimmable lighting groups. If several lighting groups are installed, the presence detector must be installed with its light-level sensor within lighting group 1. In cases where several presence detectors are being operated in a room, the presence detector for lighting group 1 should work as the master. The detector for lighting group 1 should then be positioned as closely to the door as possible so that it can immediately detect anyone entering the room.

3.1 Switching ON/OFF with constant-lighting control:

Constant-lighting control is started if the presence detector identifies the presence of one or more persons. Once this is enabled, the level of light measured and the preselected light-level setting provide the basis for determining whether or not lighting is switched ON. When activated, lighting is always switched to full power (dimming level = 100%) and then slowly dimmed down by the light-level controller to the level of light at which the chosen light-level setting and actual light level coincide. If several lighting groups are installed, only lighting group 1 is dimmed to the dimming level determined by the light-level controller. All other lighting groups are dimmed up or down by a level that can be set individually for each lighting group depending on whether they are installed close to the window or further away from it. If the level of light measured is still greater than the level set with persons present or with lighting already dimmed to the minimum level, lighting is either switched OFF completely or remains switched ON but dimmed to the minimum level depending on the parameter setting selected.

If the presence detector establishes that no person is still in the room, constant-lighting control is deactivated. It is possible to select whether deactivation of constant-lighting control also switches lighting OFF completely or whether to leave it dimmed at a selectable level for a selectable period ("basic illumination dimming level") or whether to

activate it whenever either the level of light measured by the detector's light-level sensor or the level of outdoor light measured by a twilight sensor is below the "basic light-level threshold".

3.2 Overriding constant-lighting control:

The room user can temporarily override light-level control (provided a person is in the detection zone). The "Switch Light x Input", "Dim Light x Input" and "Light x Input Dimming Level" objects are used for this purpose.

If a telegram is received via the "Switch Light x Input" object or via the "Light x Input Dimming Level" object after identifying the presence of persons in the detection zone, the associated lighting group is turned up or dimmed down to the level received, with light-level control being disabled. Lighting remains switched ON at the received level until such time as the light-level controller is either enabled by persons in the room (e.g. by operating a special button) or until such time as the detector ceases to identify the presence of persons, automatically deactivating light-level control and switching OFF the lighting.

A parameter can be used to select whether or not a telegram received via the "Dim Light x Input" object is also to disable light-level control. If it is to be disabled, only the lighting group addressed through the telegram is dimmed up or down to the appropriate output. If the light-level controller is not to be disabled by such a telegram, the lighting group addressed will not be dimmed but the setting for constant-lighting control increased or decreased by the level received. The "Alter Set Value" parameter setting should be selected for rooms with only one lighting group, with the "dim" setting being selected for rooms with several lighting groups.

3.3 Disabling / enabling constant-lighting control:

Except in response to receiving a telegram relating to the "Switch Light x Input", "Light x Input Dimming Level" and "Dim Light x Input" objects, constant-lighting control can be disabled via the bus at any time via the "Disable Light-Level Control" object and also re-enabled at any time via this object. The switching status and dimming level are not changed by the light-level controller while it is disabled. Switching or dimming telegrams received via any of objects 24 to 35 will, however, be executed even if the light-level controller is disabled.

Parameters can be used to select which status the lighting is to assume before being disabled by the disabling object and which is to be assumed after being re-enabled by the disabling object.

As explained above, switching lighting ON or OFF via a button as well as setting lighting to a defined dimming level via a button or via scene control always results in the light-level controller being disabled. This disabling can either be terminated by an appropriate telegram through the "Disable Light-Level Control" object or it is terminated automatically when the presence detector identifies there is no person remaining in the detection zone and then also terminates light-level control (not for scenes).

4. Switching mode

In "switching mode", non-dimmable lighting is only switched ON and OFF by switching telegrams (this being the equivalent of "two-point light-level control"). When persons are present, lighting is switched ON as soon as the level of light falls below the configured basic light-level threshold and switched OFF when persons are no longer detected or when it is no longer needed because daylight is sufficient for illuminating the room. The light-level threshold can either be set via a parameter or via a communication object.

A parameter can be used for selecting whether to use only one switchable lighting group for illuminating the room or whether to provide as many as four switchable lighting groups. If several lighting groups are installed, lighting group 1 is always switched ON first when presence is detected and the level of light measured is below the light-level setting. If the measured level is then still below the pre-selected level, lighting group 2 is added in and so forth. Depending on the light level measured and with an increasing incidence of daylight, the light-level controller is capable of switching one or more lighting groups back OFF again in response.

The "switching mode", i.e. two-point light-level control, can be disabled and enabled via the "Disable Light-Level Control" object in the same way as constant-lighting control. And in just the same way as this, the "switching mode" is also overridden and disabled by the re-

ceipt of a "Switch light 1 input" telegram as well as automatically re-enabled when no person remains in the room. When no persons are being detected, basic illumination can also be selected for a limited period or in relation to the "basic light-level threshold".

5. Fully/semi-automatic operation

A parameter can be used for setting the presence detector to work as a "fully automatic detector" or "semi-automatic detector". When operating as a "fully automatic detector", lighting is automatically switched ON in relation to light level when persons are present and automatically switched OFF when no persons are present. When operating as "semi-automatic detector", lighting must be switched ON manually. However, it is either switched OFF automatically in relation to light level or switched OFF when no person is present any more in the sensor system's detection zone.

6. IR remote controls

Two optional IR remote controls are available as accessories for the presence detector. The "User" IR remote control is used for switching ON/OFF and for dimming light up/down as well as for saving and selecting as many as 4 scenes by the room user. The "Program" IR remote control can be used by service personnel whenever necessary to calibrate light-level measurement, change a number of detector parameters, also without using the ETS, as well as to start and end a test mode. Parameters changed via IR remote control can be read via the bus. Program remote control RC6 KNX EAN no.: 4007841 593018. User remote control RC7 KNX EAN no.: 4007841 592912.

7. Test mode

ETS or any enabled IR remote control for service purposes can be used for activating and deactivating the presence detector's "presence test mode" or "lighting test mode".

The "Presence test mode" is used for checking the detection zone. Any movement detected is then indicated by the red light-emitting diode integrated in the presence detector flashing briefly. Communication objects are not sent during the presence test mode.

The "Lighting test mode" is used for checking light-level control. To do this, the detector must have been configured via ETS and its objects linked with the objects of the buttons and actuators for lighting control.

In the lighting test mode, the red light-emitting diode integrated in the presence detector briefly flashed to indicate any movement detected. For the duration of this test mode and irrespective of the parameters selected for the presence detector, the stay-ON time for lighting is set to 8 seconds, with light-level control and remote control also being activated for both types of IR remote control. The "presence detection" and "HVAC control" functions are deactivated. The associated objects are not sent.

8. Behaviour after a bus voltage failure and return as well as on re-starting and downloading

In the event of a bus voltage failure, the presence detector also ceases to operate as its electronic system is powered by the bus voltage. If the bus voltage fails, the disable statuses of light-level control, HVAC output and presence output are saved permanently so they can be automatically restored when the bus voltage returns.

After the bus voltage returns and after completely or partially uploading the product database to the presence detector via ETS (i.e. after re-starting), the presence detector is disabled for approx. 40 seconds with the IR 180 KNX and approx. 10 seconds with the HF 180 KNX. Lighting is switched ON at the start of the disabling time and switched OFF for approx. 2 seconds at the end of the disabling time. From then on, the detector is ready for operation and sends the latest telegrams to the lighting and HVAC control system as well as to any room surveillance system (presence) provided the relevant outputs were not disabled before the bus voltage failed.

Note: The light-level controller's disabled state is only saved if the presence detector was disabled via object 22. Temporary disabling, e.g. in 4 h ON/OFF mode, scenes, switch light x input, are not saved.

9. Behaviour after initial start-up and unloading

When installing a brand-new presence detector, it automatically switches to "presence test mode" as soon as the bus voltage is applied. Any movement detected in this mode is then indicated by the red LED integrated in the presence detector lighting up. This shows that bus voltage is being applied to the detector and that it is in working order. However, light-level control is deactivated and no telegrams can be sent.

If the presence detector's application program is "unloaded" via ETS, the presence detector automatically goes into "presence test mode" in just the same way as it does after initial start-up.

10. Communication objects

All of the communication objects listed below are available to the presence detector. Which of these are visible and capable of being linked with group addresses are determined both via the "detector mode" parameter setting in the "General Settings" parameter window as well as via further parameter settings for chosen functions and communication objects.

Maximum number of group addresses: 250
 Maximum number of assignments: 250

Obj	Object name	Function	DP type	Flags
0	Test mode status	ON/OFF	1,001 (1 bit)	CRT
1	Presence output	ON/OFF	1,001 (1 bit)	CRT
2	Disable presence output	ON/OFF	1,001 (1 bit)	CWT
3	Presence output disabling status	ON/OFF	1,001 (1 bit)	CRT
4	Presence slave	ON/OFF	1,001 (1 bit)	CWT
8	Interference source switching status	ON/OFF	1,001 (1 bit)	CWT
9	Time factor for presence switch-ON delay	0-5	5,005 (8 bits)	CRWT
10	Time factor for presence stay-ON time	1-255	5,005 (8 bits)	CRWT
11	Light level measured	10-1500 lux	9,004 (16 bits)	CRT
12	Light-level setting	10-1000 lux	9,004 (16 bits)	CRWT
13	Time factor for lighting stay-ON time	0-255	5,005 (8 bits)	CRWT
14	Switch light 1 output	ON/OFF	1,001 (1 bit)	CRT
15	Switch light 2 output	ON/OFF	1,001 (1 bit)	CRT
16	Switch light 3 output	ON/OFF	1,001 (1 bit)	CRT
17	Switch light 4 output	ON/OFF	1,001 (1 bit)	CRT
18	Light 1 output dimming level	0-100%	5,001 (8 bits)	CRT
19	Light 2 output dimming level	0-100%	5,001 (8 bits)	CRT
20	Light 3 output dimming level	0-100%	5,001 (8 bits)	CRT
21	Light 4 output dimming level	0-100%	5,001 (8 bits)	CRT
22	Disable light-level control	ON/OFF	1,001 (1 bit)	CWT
23	Light-level control disabling status	ON/OFF	1,001 (1 bit)	CRT
24	Switch light 1 input	ON/OFF	1,001 (1 bit)	CWT
25	Dim light 1 input	brighter / darker	3,007 (4 bits)	CWT
26	Light 1 input dimming level	0-100%	5,001 (8 bits)	CWT
27	Switch light 2 input	ON/OFF	1,001 (1 bit)	CWT
28	Dim light 2 input	brighter / darker	3,007 (4 bits)	CWT

Obj	Object name	Function	DP type	Flags
29	Light 2 input dimming level	0-100%	5,001 (8 bits)	CWT
30	Switch light 3 input	ON/OFF	1,001 (1 bit)	CWT
31	Dim light 3 input	brighter / darker	3,007 (4 bits)	CWT
32	Light 3 input dimming level	0-100%	5,001 (8 bits)	CWT
33	Switch light 4 input	ON/OFF	1,001 (1 bit)	CWT
34	Dim light 4 input	brighter / darker	3,007 (4 bits)	CWT
35	Light 4 input dimming level	0-100%	5,001 (8 bits)	CWT
36	HVAC output	ON/OFF	1,001 (1 bit)	CRT
37	Disable HVAC output	ON/OFF	1,001 (1 bit)	CWT
38	HVAC output disabling status	ON/OFF	1,001 (1 bit)	CRT
39	Time factor for HVAC switch-ON delay	0-255	5,005 (8 bits)	CRWT
40	Time factor for HVAC stay-ON time	1-255	5,005 (8 bits)	CRWT
41	8-bit scene output	select / save	18,001 (8 bits)	CRT
42	Switch basic illumination output	ON/OFF	1,001 (1 bit)	CRT
43	Twilight sensor input	10-1000 lux	9,004 (16 bits)	CWT
44	Basic light-level threshold	10-1000 lux	9,004 (16 bits)	CRWT
45	Time factor for basic illumination ON period	1-255	5,005 (8 bits)	CRWT
46	Boost factor	1-4	5,005 (8 bits)	CRWT
47	Sensitivity	1 = high / 0 = low	1,001 (1 bit)	CRWT
48	Light-level sensor input	10-1000 lux	9,004 (16 bit)	CWT
49	Sabotage protection	ON/OFF	1,001 (1 bit)	CRT
50	Temperature measured	0-40°C	9,001 (16 bit)	CRT
51	Humidity measured	0-100%	9,007 (16 bit)	CRT
52	Light-switching button	ON/OFF	1,001 (1 bit)	CRT
53	Light-dimming button	brighter / darker	3,007 (4 bits)	CRT
54	Discontinuous roller-shutter operating button	ON/OFF	1,001 (1 bit)	CRT
55	Continuous roller-shutter operating button	ON/OFF	1,001 (1 bit)	CRT
56	1-byte encoder	0-255/0-100%	5,xxx (8 bits)	CRT
57	2-byte encoder	0-65535	7,xxx (16 bits)	CRT
58	Brightness encoder	0-1500 lux	9,004 (16 bits)	CRT
59	Temperature encoder	0-40°C	9,001 (16 bits)	CRT

Obj	Object name	Function	DP type	Flag
0	Test mode status	ON/OFF	1,001 (1 bit)	CRT
<p>This object is always available. This object automatically reports whether "presence test mode" or "lighting test mode" was switched ON or OFF whenever status is changed. This object can also be used at any time for requesting the test-mode status.</p>				
1	Presence output	ON/OFF	1,001 (1 bit)	CRT
<p>This object is only visible if the "Presence Output" parameter is not set to "inactive" in the "General Settings" parameter window.</p> <p>The group address linked with this object is sent to the actuator via bus, indicating whether persons have been detected ("presence output = ON") or not ("presence output = OFF"); presence status can be requested from the detector at any time.</p>				
2	Disable presence output	ON/OFF	1,001 (1 bit)	CWT
<p>This object is only visible when the "Presence Output" parameter is not set to "inactive" in the "General Settings" parameter window and when the "Disable Presence Output" parameter is not set to "No" in the "Presence Output" parameter window. The "Disable Presence Output" parameter is also used for setting whether disabling is to take place after receiving the value "1" or after receiving the value "0".</p> <p>When presence output is disabled, the detector sends no telegrams on presence status.</p>				
3	Presence output disabling status	ON/OFF	1,001 (1 bit)	CRT
<p>This object is only visible if the "Presence Output" parameter is not set to "inactive" in the "General Settings" parameter window and when the "Presence Output Disabling Status" parameter is not set to "inactive" in the "Presence Output" parameter window.</p> <p>Sent via bus, the group address linked with this object is used for indicating whether or not the presence output is disabled (presence output disabling status = ON). This can also be requested via the bus.</p>				
4	Presence slave	ON/OFF	1,001 (1 bit)	CWT
<p>This object is only visible if the "Detector mode" parameter is set to "Master" or to "Master in parallel mode" in the "General Settings" parameter window.</p> <p>The group address linked with this object is used by the master for receiving the presence status of slave 1 via the bus and, if applicable, linked with the presence status of further slaves as well as the master via a logical OR function, this being sent as overall presence in response to a change or request via the master object 1.</p>				
8	Interference source switching status	ON/OFF	1,001 (1 bit)	CWT
<p>This object is only visible if the "Interference Source Switching Status Object" parameter is set to "Yes" in the "Lighting Control" parameter window.</p> <p>If switching an interference source (e.g. a light) ON or OFF in the sensor system's detection zone results in faulty presence detection, this object must be linked with the switching-status object of the actuator used for switching the interference source ON and OFF.</p>				
9	Time factor for presence switch-ON delay	0-5	5,005 (8 bits)	CRWT
<p>This object is only visible if the "Switch-ON Delay and Stay-ON Time Can Be Read / Changed via Bus" parameter is set to "Yes" in the "Presence" parameter window.</p> <p>The group address linked with this object is used for receiving the presence-detection stay-ON time (in seconds) via the bus. Any value received outside the permissible range of 0 - 5 is rejected. This object can also be used for requesting the current presence-detection switch-ON delay at any time, also after making a change via ETS or IR remote control.</p>				

Obj	Object name	Function	DP type	Flag
10	Time factor for presence stay-ON time	1-255	5,005 (8 bits)	CRWT
<p>This object is only visible if the "Switch-ON Delay and Stay-ON Time Can Be Read / Changed via Bus" parameter is set to "Yes" in the "Presence" parameter window.</p> <p>The group address linked with this object is used for receiving the presence-detection stay-ON time (in seconds) via bus. Any value received outside the permissible range of 1 - 255 is rejected. This object can also be used for requesting the current presence-detection stay-ON time at any time, also after making a change via ETS or IR remote control.</p>				
11	Light level measured	10 - 1500 lux	9,004 (16 bits)	CRT
<p>This object is only visible if the "Light Level Measured" parameter is set to "active" in the "General Settings" parameter window.</p> <p>The group address linked with this object is used for sending the light level measured by the detector via bus, with it also being possible to request the light level from the detector.</p>				
12	Light-level setting	10 - 1000 lux	9,004 (16 bits)	CRWT
<p>This object is only visible if the "Light Level Setting Can Be Read / Changed via Bus" parameter is set to "Yes" in the "Lighting Control" parameter window.</p> <p>The group address linked with this object is used for receiving the light-level control setting (in lux) via the bus, with it being possible to request such at any time, also after making a change via ETS or IR remote control.</p>				
13	Time factor for lighting stay-ON time	0-255	5,005 (8 bits)	CRWT
<p>This object is only visible if the "Switch-ON Delay and Stay-ON Time Can Be Read / Changed via Bus" parameter is set to "Yes" in the "Lighting" parameter window.</p> <p>The group address linked with this object is used for receiving the stay-ON time (in minutes) via bus, this being the time for which lighting is to remain switched ON after there is no person remaining in the room. This object can also be used for requesting the lighting stay-ON time at any time, also after making a change via ETS or IR remote control.</p> <p><u>Note:</u> The value "0" indicates that the ON period in the "IQ mode" is set by the detector automatically. The time is automatically set to the starting value of 5 minutes.</p>				
14	Switch light 1 output	ON/OFF	1,001 (1 bit)	CRT
<p>This object is always available. It must be linked with the switching object of the actuator used in conjunction with dimmed lighting for switching the entire room lighting ON and OFF, or of the actuator used in conjunction with lighting groups for switching lighting group 1 ON and OFF in one or more stages.</p> <p>The group address linked with this object is used for sending the switching command via bus to the actuator, with it also being possible to request the switching status from the detector.</p>				
15	Switch light 2 output	ON/OFF	1,001 (1 bit)	CRT
<p>This object is only visible if the "Number of Lighting Groups" parameter is set to a value ≥ 2 in the "Lighting Control" parameter window. This object must be linked with the switching object of the actuator used for switching lighting group 2 ON and OFF. The group address linked with this object is used for sending the switching command via bus to the actuator, with it also being possible to request the switching status from the detector.</p>				
16	Switch light 3 output	ON/OFF	1,001 (1 bit)	CRT
<p>This object is only visible if the "Number of Lighting Groups" parameter is set to a value ≥ 3 in the "Lighting Control" parameter window. This object must be linked with the switching object of the actuator used for switching lighting group 3 ON and OFF. The group address linked with this object is used for sending the switching command via bus to the actuator, with it also being possible to request the switching status from the detector.</p>				

Obj	Object name	Function	DP type	Flag
17	Switch light 4 output	ON/OFF	1,001 (1 bit)	CRT
<p>This object is only visible if the "Number of Lighting Groups" parameter is set to the value 4 in the "Lighting Control" parameter window. This object must be linked with the switching object of the actuator used for switching lighting group 4 ON and OFF. The group address linked with this object is used for sending the switching command via bus to the actuator, with it also being possible to request the switching status from the detector.</p>				
18	Light 1 output dimming level	0-100%	5,001 (8 bits)	CRT
<p>This object is only visible if the "Type of Light-Level Control" parameter is set to "Constant-lighting control" in the "Light-Level Control" parameter window.</p> <p>This object must be linked with the dimming-level object of the actuator used for dimming the entire lighting, or in the case of several lighting groups, for dimming lighting group 1 to the level received. The group address linked with this object is used for sending the dimming value via bus to the actuator, with it also being possible to request this from the detector.</p>				
19	Light 2 output dimming level	0-100%	5,001 (8 bits)	CRT
<p>This object is only visible if the "Type of Light-Level Control" parameter is set to "Constant-lighting control" in the "Light-Level Control" parameter window and the "Number of Lighting Groups" parameter is set to a value ≥ 2 in the "Lighting Control" parameter window.</p> <p>This object must be linked with the dimming-level object of the actuator used for dimming lighting group 2 to the level received. The group address linked with this object is used for sending the dimming value via bus to the actuator, with it also being possible to request this from the detector.</p>				
20	Light 3 output dimming level	0-100%	5,001 (8 bits)	CRT
<p>This object is only visible if the "Type of Light-Level Control" parameter is set to "Constant-lighting control" in the "Light-Level Control" parameter window and the "Number of Lighting Groups" parameter is set to a value ≥ 3 in the "Lighting Control" parameter window.</p> <p>This object must be linked with the dimming-level object of the actuator used for dimming lighting group 3 to the level received. The group address linked with this object is used for sending the dimming value via bus to the actuator, with it also being possible to request this from the detector.</p>				
21	Light 4 output dimming level	0-100%	5,001 (8 bits)	CRT
<p>This object is only visible if the "Type of Light-Level Control" parameter is set to "Constant-lighting control" in the "Light-Level Control" parameter window and the "Number of Lighting Groups" parameter is set to the value 4 in the "Lighting Control" parameter window.</p> <p>This object must be linked with the dimming-level object of the actuator used for dimming lighting group 4 to the level received. The group address linked with this object is used for sending the dimming value via bus to the actuator, with it also being possible to request this from the detector.</p>				
22	Disable light-level control	ON/OFF	1,001 (1 bit)	CWT
<p>This object is only visible if the "Disable Light-Level Control" parameter is <u>not</u> set to "No" in the "Lighting Control" parameter window. The "Disable Light-Level Control" parameter is also used for selecting whether to perform disabling on receiving a value of "1" or on receiving a value of "0".</p> <p>When light-level control is disabled, the detector sends no telegrams for operating or dimming lighting.</p>				
23	Light-level control disabling status	ON/OFF	1,001 (1 bit)	CRT
<p>This object is only visible if the "Disable Light-Level Control" parameter is <u>not</u> set to "No" in the "Lighting Control" parameter window.</p> <p>The group address linked with this object is used for automatically sending the disabling status of light-level control via bus after any change, with it being possible to request the disabling status at any time from the detector.</p>				

Obj	Object name	Function	DP type	Flag
24	Switch light 1 input	ON/OFF	1,001 (1 bit)	CWT
<p>This object is always available. It must be linked with the switching object of the button that enables a room user to switch the room's entire lighting (if only one lighting group is installed) or lighting group 1 (if several lighting groups are installed) ON and OFF.</p> <p>Receiving a telegram via this object disables light-level control, because the room user wishes to switch room lighting or lighting group 1 ON or OFF permanently. It remains disabled until either a telegram for enabling light-level control is received via object 22 or until the detector establishes that no person is remaining in the room, re-enabling light-level control and switching the lighting OFF.</p>				
25	Dim light 1 input	brighter / darker	3,007 (4 bits)	CWT
<p>This object is only visible if the "Type of Light-Level Control" parameter is set to "Constant-lighting control" in the "Light-Level Control" parameter window.</p> <p>If a telegram is received via this object, and depending on the "Light-Level Control for Dim Light x Input" parameter setting, light-level control is either disabled with the relevant lighting group being dimmed, or light-level control is not disabled and the light-level control setting is increased or reduced accordingly, automatically resulting in a lighter or darker dimming of the lighting. If the detector establishes that nobody is remaining in the room, the altered light-level setting is returned to its original value and the lighting is switched OFF.</p>				
26	Light 1 input dimming level	0-100%	5,001 (8 bits)	CWT
<p>This object is only visible if the "Type of Light-Level Control" parameter is set to "Constant-lighting control" in the "Light-Level Control" parameter window.</p> <p>If a telegram is received via this object, light-level control is disabled, because the room user wishes to dim the room lighting to a pre-selected level on a permanent basis using a button or a scene control option. It remains disabled until either a telegram for enabling light-level control is received via object 22 or until the detector establishes that no person is remaining in the room, re-enabling light-level control and switching the lighting OFF.</p>				
27	Switch light 2 input	ON/OFF	1,001 (1 bit)	CWT
<p>This object is only visible if the "Number of Lighting Groups" parameter is set to a value ≥ 2 in the "Lighting Control" parameter window. It must be linked with the switching object of the button that can be pressed by the room user to switch lighting group 2 ON and OFF.</p> <p>If a telegram is received via this object, light-level control is disabled, because the room user wishes to switch lighting group 2 ON or OFF on a permanent basis. It remains disabled until either object 22 delivers a telegram for enabling light-level control or until the detector establishes that no person is remaining in the room, re-enabling light-level control and switching the lighting OFF.</p>				
28	Dim light 2 input	brighter / darker	3,007 (4 bits)	CWT
<p>This object is only visible if the "Type of Light-Level Control" parameter is set to "Constant-lighting control" in the "Light-Level Control" parameter window and the "Number of Lighting Groups" parameter is set to a value ≥ 2 in the "Lighting Control" parameter window.</p> <p>If a telegram is received via this object, and depending on the "Light-Level Control for Dim Light x Input" parameter setting, light-level control is either disabled with lighting group 2 being dimmed, or light-level control is not disabled and the light-level control setting is increased or reduced accordingly, automatically resulting in a lighter or darker dimming of the lighting. If the detector establishes that nobody is remaining in the room, the altered light-level setting is returned to its original value and the lighting is switched OFF.</p>				

Obj	Object name	Function	DP type	Flag
29	Light 2 input dimming level	0-100%	5,001 (8 bits)	CWT
<p>This object is only visible if the "Type of Light-Level Control" parameter is set to "Constant-lighting control" in the "Light-Level Control" parameter window and the "Number of Lighting Groups" parameter is set to a value ≥ 2 in the "Lighting Control" parameter window.</p> <p>If a telegram is received via this object while "presence=ON", light-level control is disabled, because the room user wishes to switch lighting group 2 ON or OFF on a permanent basis using a button or scene control option. It remains disabled until either a telegram for enabling light-level control is received via object 22 or until the detector establishes that no person is remaining in the room, re-enabling light-level control and switching the lighting OFF.</p>				
30	Switch light 3 input	ON/OFF	1,001 (1 bit)	CWT
<p>This object is only visible if the "Number of Lighting Groups" parameter is set to a value ≥ 3 in the "Lighting Control" parameter window. It must be linked with the switching object of the button that can be pressed by the room user to switch lighting group 3 ON and OFF.</p> <p>If a telegram is received via this object, light-level control is disabled, because the room user wishes to switch lighting group 3 ON or OFF on a permanent basis. It remains disabled until either object 22 delivers a telegram for enabling light-level control or until the detector establishes that no person is remaining in the room, re-enabling light-level control and switching the lighting OFF.</p>				
31	Dim light 3 input	brighter / darker	3,007 (4 bits)	CWT
<p>This object is only visible if the "Type of Light-Level Control" parameter is set to "Constant-lighting control" in the "Light-Level Control" parameter window and the "Number of Lighting Groups" parameter is set to a value ≥ 3 in the "Lighting Control" parameter window.</p> <p>If a telegram is received via this object, and depending on the "Light-Level Control for Dim Light x Input" parameter setting, light-level control is either disabled with lighting group 3 being dimmed, or light-level control is not disabled and the light-level control setting is increased or reduced accordingly, automatically resulting in a lighter or darker dimming of the lighting. If the detector establishes that nobody is remaining in the room, the altered light-level setting is returned to its original value and the lighting is switched OFF.</p>				
32	Light 3 input dimming level	0-100%	5,001 (8 bits)	CWT
<p>This object is only visible if the "Type of Light-Level Control" parameter is set to "Constant-lighting control" in the "Light-Level Control" parameter window and the "Number of Lighting Groups" parameter is set to a value ≥ 3 in the "Lighting Control" parameter window.</p> <p>If a telegram is received via this object, light-level control is disabled, because the room user wishes to dim lighting group 3 to a pre-selected level on a permanent basis using a button or a scene control option. It remains disabled until either a telegram for enabling light-level control is received via object 22 or until the detector establishes that no person is remaining in the room, re-enabling light-level control and switching the lighting OFF.</p>				
33	Switch light 4 input	ON/OFF	1,001 (1 bit)	CWT
<p>This object is only visible if the "Number of Lighting Groups" parameter is set to the value 4 in the "Lighting Control" parameter window. It must be linked with the switching object of the button that can be pressed by the room user to switch lighting group 4 ON and OFF.</p> <p>If a telegram is received via this object, light-level control is disabled, because the room user wishes to switch lighting group 4 ON or OFF on a permanent basis. It remains disabled until either object 22 delivers a telegram for enabling light-level control or until the detector establishes that no person is remaining in the room, re-enabling light-level control and switching the lighting OFF.</p>				

Obj	Object name	Function	DP type	Flag
34	Dim light 4 input	brighter / darker	3,007 (4 bits)	CWT
<p>This object is only visible if the "Type of Light-Level Control" parameter is set to "Constant-lighting control" in the "Light-Level Control" parameter window and the "Number of Lighting Groups" parameter is set to the value 4 in the "Lighting Control" parameter window.</p> <p>If a telegram is received via this object, and depending on the "Light-Level Control for Dim Light x Input" parameter setting, light-level control is either disabled with lighting group 4 being dimmed, or light-level control is not disabled and the light-level control setting is increased or reduced accordingly, automatically resulting in a lighter or darker dimming of the lighting. If the detector establishes that nobody is remaining in the room, the altered light-level setting is returned to its original value and the lighting is switched OFF.</p>				
35	Light 4 input dimming level	0-100%	5,001 (8 bits)	CWT
<p>This object is only visible if the "Type of Light-Level Control" parameter is set to "Constant-lighting control" in the "Light-Level Control" parameter window and the "Number of Lighting Groups" parameter is set to the value 4 in the "Lighting Control" parameter window.</p> <p>If a telegram is received via this object, light-level control is disabled, because the room user wishes to dim lighting group 4 to a pre-selected level on a permanent basis using a button or a scene control option. It remains disabled until either a telegram for enabling light-level control is received via object 22 or until the detector establishes that no person is remaining in the room, re-enabling light-level control and switching the lighting OFF.</p>				
36	HVAC output	ON/OFF	1,001 (1 bit)	CRT
<p>This object is only visible if the "HVAC Output" parameter is set to "active" in the "General Settings" parameter window.</p> <p>This object must be linked with the presence input of the room-temperature regulator used for switching the room mode between "comfort mode" and "energy-saving mode".</p> <p>The group address linked with this object is used for sending the HVAC status via bus to the actuator, with it also being possible to request this from the detector.</p>				
37	Disable HVAC output	ON/OFF	1,001 (1 bit)	CWT
<p>This object is only visible if the "HVAC Output" parameter is set to "active" in the "General Settings" parameter window and if the "Disable HVAC output" parameter is <u>not</u> set to "No" in the "HVAC output" parameter window. The "Disable HVAC output" parameter is also used for selecting whether to perform disabling on receiving a value of "1" or on receiving a value of "0". When the "HVAC output" is disabled, the detector does not send any telegrams for governing the mode of HVAC control.</p>				
38	HVAC output disabling status	ON/OFF	1,001 (1 bit)	CRT
<p>This object is only visible if the "HVAC Output" parameter is set to "active" in the "General Settings" parameter window and if the "HVAC Output Disabling Status" parameter is set to "active" in the "HVAC output" parameter window. The group address linked with this object is sent via the bus to indicate (or it is possible to enquire via the bus) whether the HVAC output is disabled (HVAC output disabling status = ON) or not.</p>				
39	Time factor for HVAC switch-ON delay	0-255	5,005 (8 bits)	CRWT
<p>This object is only visible if the "Switch-ON Delay and Stay-ON Time Can Be Read / Changed via Bus" parameter is set to "Yes" in the "HVAC Output" parameter window.</p> <p>The group address linked with this object is used for receiving the switch-ON delay (in minutes) via bus, during which the room-temperature control system is not switched to comfort mode after persons are already present in the room.</p> <p>This object can also be used for requesting the latest HVAC stay-ON time at any time, also after making a change via ETS or IR remote control.</p> <p>Note: The value "0" indicates that the switch-ON delay in "room surveillance mode" is set by the detector automatically.</p>				

Obj	Object name	Function	DP type	Flag
40	Time factor for HVAC stay-ON time	1-255	5,005 (8 bits)	CRWT
<p>This object is only visible if the "Switch-ON Delay and Stay-ON Time Can Be Read / Changed via Bus" parameter is set to "Yes" in the "HVAC Output" parameter window.</p> <p>The group address linked with this object is used for receiving the stay-ON time (in minutes) via bus, this being the time for which the room temperature control system is to remain switched to comfort mode after there is no person remaining in the room.</p> <p>Any value received outside the permissible range of 1-255 is rejected. This object can also be used for requesting the latest HVAC-stay-ON time at any time, also after making a change via ETS or IR remote control.</p>				
41	8-bit scene output	select / save	18,001 (8 bits)	CRT
<p>This object is only visible if the "Remote Control" parameter is set to "User" or to "Program & User" in the "General Settings" parameter window.</p> <p>This object is used for sending a telegram for restoring or saving an 8-bit scene. The number of the 8-bit scene being restored or saved is set via the relevant parameter in the "Scene Control" parameter window.</p>				
42	Switch basic illumination output	ON/OFF	1,001 (1 bit)	CRT
<p>This object is only visible if the "Basic Illumination" parameter is set to "special switching object" in the "Basic Illumination via" parameter window. This object must be linked with the switching object of the actuator used for switching basic illumination ON and OFF. The group address linked with this object is used for sending the switching command via bus to the actuator, with it also being possible to request the switching status from the detector.</p>				
43	Twilight sensor input	10-1000 lux	9,004 (16 bits)	CWT
<p>This object is only visible if the "Basic Illumination ON" parameter is set to "in relation to outdoor light level" in the "Basic Illumination" parameter window.</p> <p>The group address linked with this object is used for receiving the light level measured by a twilight sensor and then checking whether the level of light exceeds or falls below the basic illumination threshold.</p>				
44	Basic light-level threshold	10-1000 lux	9,004 (16 bits)	CRWT
<p>This object is only visible if the "Threshold and ON Period Can Be Read / Changed via Bus" parameter is set to "Yes" in the "Basic Illumination" parameter window.</p> <p>The group address linked with this object can be used via the bus for changing the basic light-level threshold (in lux) at which basic illumination is activated if not met and at which basic illumination is switched OFF again if significantly exceeded.</p> <p>Any value received outside the permissible range of 10-1000 lux is rejected. This object can also be used for requesting the current threshold value at any time, also after making a change via ETS or IR remote control.</p>				
45	Time factor for basic illumination ON period	1-255	5,005 (8 bits)	CRWT
<p>This object is only visible if the "Threshold and ON Period Can Be Read / Changed via Bus" parameter is set to "Yes" in the "Basic Illumination" parameter window.</p> <p>The group address linked with this object can be used for changing the ON period for basic illumination (in minutes) via bus. Basic illumination is switched OFF once the ON period expires.</p> <p>Any value received outside the permissible range of 1-255 is rejected. This object can also be used at any time for requesting the current ON period for timed basic illumination, also after making a change via ETS or IR remote control.</p>				

Obj	Object name	Function	DP type	Flag
46	Boost factor	1-4	5,005 (8 bits)	CRWT
<p>This object is only visible if the "Configurable via Bus" parameter is set to "Yes" in the "Reach Setting" parameter window.</p> <p>The group address linked with this object is used via the bus for setting the HF presence detector boost factor. Any value received outside the permissible range of 1-4 is rejected. This object can also be used for requesting the current boost factor at any time, also after making a change via ETS or IR remote control.</p> <p>Values 1-4 have the following meaning: 1: very large movements will be detected, 2: large movements will be detected, 3: moderate movements will be detected, 4: minor movements will be detected.</p>				
47	Sensitivity	1 = high / 0 = low	1,001 (1 bit)	CRWT
<p>This object is only visible if the "Configurable via Bus" parameter is set to "Yes" in the "Reach Setting" parameter window.</p> <p>The group address linked with this object is used for setting the "sensitivity" of the presence detector via the bus. This object can also be used for requesting the current sensitivity setting at any time, also after making a change via ETS or IR remote control.</p>				
48	Light-level sensor input	10-1000 lux	9,004 (16 bits)	CWT
<p>This object is only visible if the "External Light Level" parameter is set to "Yes" in the "Light-Level Control" parameter window.</p> <p>The group address linked with this object is used for receiving the light level measured by a twilight sensor and then as the setting for controlling light level.</p>				
49	Sabotage protection	10-1000 lux	1,001 (1 bits)	CWT
<p>This object is only visible if the "Sabotage" parameter is set to "active" in the "General Setting" parameter window.</p> <p>An ON or OFF telegram is sent cyclically to the group address linked with this object while the sensor is not disconnected from the bus or if it is faulty.</p>				
50	Temperature measured	0-40°C	9,001 (16 bits)	CRT
<p>This object is only visible if the "Temperature Measured" parameter is set to "active" in the "General Settings" parameter window. The group address linked with this object is used for sending the temperature measured by the detector via bus, with it also being possible to request this from the detector.</p>				
51	Humidity measured	10-100%	9,001 (16 bits)	CRT
<p>This object is only visible if the "Humidity Measured" parameter is set to "active" in the "General Settings" parameter window. The group address linked with this object is used for sending the humidity measured by the detector via bus, with it also being possible to request this from the detector.</p>				
52	Light-switching button	ON/OFF	1,001 (1 bits)	CRT
<p>This parameter is only visible if the "Button Function" parameter is set to "switch/dim" in the "General Settings" parameter window.</p> <p>The group address linked with this object is used for sending the button's switching command via bus to the actuator, with it also being possible to request the switching status from the detector.</p>				
53	Light-dimming button	brighter / darker	3,007 (4 bits)	CRT
<p>This parameter is only visible if the "Button Function" parameter is set to "switch/dim" in the "General Settings" parameter window.</p>				
54	Discontinuous roller-shutter operating button	ON/OFF	1,001 (1 bits)	CRT
<p>This parameter is only visible if the "Button Function" parameter is set to "roller-shutter control" in the "General Settings" parameter window.</p> <p>The group address linked with this object is used for sending the switching command for stopping and incrementally adjusting the roller shutter via bus.</p>				

Obj	Object name	Function	DP type	Flag
55	Continuous roller-shutter operating button	ON/OFF	1,001 (1 bits)	CRT
<p>This parameter is only visible if the "Button Function" parameter is set to "roller-shutter control" in the "General Settings" parameter window.</p> <p>The group address linked with this object is used for sending the switching command for opening and closing the roller shutter via bus.</p>				
56	1-byte encoder	0-255/ 0-100%	5,xxx (8 bits)	CRT
<p>This parameter is only visible if the "Button Function" parameter is set to "1-byte encoder" in the "General Settings" parameter window.</p> <p>The group address linked with this object is used for sending the byte of the 1-byte encoder via bus.</p>				
57	2-byte encoder	0-65535	7,xxx (16 bits)	CRT
<p>This parameter is only visible if the "Button Function" parameter is set to "2-byte encoder" in the "General Settings" parameter window and the "2-Byte Encoder Function" parameter is set to "0-65535".</p> <p>The group address linked with this object is used for sending the two bytes of the 2-byte encoder via bus.</p>				
58	Brightness encoder	0-1500 lux	9,004	CRT
<p>This parameter is only visible if the "Button Function" parameter is set to "2-byte encoder" in the "General Settings" parameter window and the "2-Byte Encoder Function" parameter is set to "0-1500 lux".</p> <p>The group address linked with this object is used for sending the brightness of the 2-byte encoder via bus.</p>				
59	Temperature encoder	0-40°C	9,001	CRT
<p>This parameter is only visible if the "Button Function" parameter is set to "2-byte encoder" in the "General Settings" parameter window and the "2-Byte Encoder Function" parameter is set to "0-40°C".</p> <p>The group address linked with this object is used for sending the temperature of the 2-byte encoder via bus.</p>				

11. Parameters

Note: The factory parameter settings are shown in **bold type**.

11.1 "General Settings" parameter window

This parameter window is always available. It is used for setting the detector operating mode as well as the chosen detector functions.

Parameters	Settings
Detector mode	Single detector ; master; slave; master in parallel mode.
<p><u>Single detector</u>: only one presence detector is installed in the room.</p> <p><u>Master</u>: if required, additional detectors can be connected to the "master" via the bus as "slaves" to extend the presence detection zone. Only the master controls the light level and sends the presence and HVAC objects.</p> <p><u>Slave</u>: slaves are used for extending the detection zone. They only deliver presence information to the master.</p> <p><u>Master in parallel mode</u>: see page 3</p>	
Presence output	active; inactive
<p><u>active</u>: the "Presence" parameter window is also available for setting the associated parameters as well as the associated objects.</p> <p><u>inactive</u>: the detector does not provide presence detection. The "Presence" parameter window and the associated objects are not available.</p>	
HVAC output	active; inactive
<p><u>active</u>: the "HVAC" parameter window is also available for setting the associated parameters as well as the associated objects.</p> <p><u>inactive</u>: the detector does not control the HVAC mode. The "HVAC" parameter window and the associated objects are not available.</p>	

Parameters	Settings
Light level measured	active; inactive
<p><u>active</u>: object 11 "light level measured" is added. This is used for sending the light level that is measured (in lux) by the presence detector.</p> <p><u>inactive</u>: the light level measured by the detector is not sent. The required object 11 is not available.</p>	
Temperature measured	inactive , active
<p><u>active</u>: object 50 "Temperature Measured" is added, via which the measured temperature (in °C) is sent.</p> <p><u>inactive</u>: the temperature measured by the detector is not sent. The required object 50 is not available.</p>	
Humidity measured	inactive , active
<p><u>active</u>: object 51 "Humidity Measured" is added, via which the humidity measured (in %) is sent.</p> <p><u>inactive</u>: the humidity measured by the detector is not sent. The required object 51 is not available.</p>	
Remote control	User; program; program & user; inactive
<p><u>User</u>: enables the room user to operate and dim lighting, save and select as many as 4 scenes as well as re-activate (enable) light-level control via a small IR remote control.</p> <p><u>Program</u>: enables service personnel to change a number of detector parameters (e.g. switch-ON delay, stay-ON times and light-level setting) via a special IR remote control without using ETS.</p> <p><u>Program & user</u>: enables switching, dimming and scene control as well as the changing of detector parameters via IR remote control.</p> <p><u>inactive</u>: the IR receiver integrated in the detector is deactivated.</p>	
Normal / test mode	Normal mode ; presence test mode; lighting test mode
<p><u>Normal mode</u>: the presence detector works in the configured mode.</p> <p><u>Presence test mode</u>: the presence detector can be set to presence test mode for checking the detection zone. Any movement detected in the presence test mode results in the red light-emitting diode integrated in the presence detector flashing briefly. No objects are sent during the presence test mode.</p> <p><u>Lighting test mode</u>: to run the "Lighting test mode", the detector must have been configured via ETS and its objects linked with the objects of the buttons and actuators for lighting control.</p> <p>Any movement detected in this test mode results in the red light-emitting diode integrated in the presence detector flashing briefly. For the duration of this test mode and irrespective of the parameters selected for the presence detector, the stay-ON time is set to 8 s, and light-level control and the remote control activated for both types of IR remote control. The "presence detection" and "HVAC control" functions are deactivated. The associated objects are not sent.</p> <p>The presence detector is restarted after completing the test mode (when this parameter has been reset to "normal mode"). The parameters changed at the beginning of the test mode are now reset to the values set via ETS.</p>	
Sabotage	active; inactive
<p><u>active</u>: the "Sabotage" object is added for cyclically sending a telegram to register manipulation or a fault</p> <p><u>inactive</u>: the "Sabotage" object is not available.</p>	
Button function	inactive , switch/dim, roller-shutter control, 1 byte encoder, 2 byte encoder, scene control, internal switch/dim
<p>This parameter is used for setting the button function.</p>	

11.2 "Reach Settings" parameter window

This parameter window is always available. This is used for making the reach settings.

Parameters	Settings
Boost factor	min, 1/3, 2/3, max
<p>This parameter is used for setting the boost factor for the detector motion detection.</p> <p><u>min</u>: very large movements will be detected, <u>1/3</u>: large movements will be detected, <u>2/3</u>: moderate movements will be detected, <u>max</u>: minor movements will be detected.</p>	
Sensitivity	- (= low); N (= high)
<p>This parameter is used for setting the "sensitivity" of the detector. "High" sensitivity immediately responds to any movement detected. "Low" sensitivity only responds after detecting several movements.</p>	
Boost factor, sensitivity, can be read / changed via bus	Yes; no
<p>This parameter is used to set whether the reach and sensitivity parameters can be read and changed via bus or not.</p> <p><u>Yes</u>: communication objects 46 and 47 are added so that boost factor and sensitivity can be set via bus. These objects not only provide the capability of changing the relevant values via bus. They can also be used for requesting the current value irrespective of whether it was entered via ETS, service remote control or bus.</p> <p><u>No</u>: boost factor and sensitivity cannot be read and set via bus.</p>	

11.3 "Presence" parameter window

This parameter window is only available if the "Presence Output" parameter is set to "active" in the "General Settings" parameter window. It is used for setting the operating behaviour on detecting presence.

Parameters	Settings
Presence switch-ON delay (in seconds)	0-5; (1)
<p>The switch-ON delay can be set to between 0 and 5 seconds. If this parameter is set to "0", a check is performed again prior to sending "presence output = ON" to establish whether presence is still being detected. Otherwise nothing is sent.</p>	
Min. number of movements detected during switch-ON delay	1-20; (2)
<p>This parameter is only visible if the preceding "Presence Switch-ON Delay" parameter is not set to "0".</p> <p>This parameter is used for setting the minimum number of movements that must be detected during the switch-ON delay. Presence must still be detected even after switch-ON delay has elapsed. Otherwise "presence output = ON" is not sent.</p>	
Presence stay-ON time in seconds or minutes	Seconds, minutes
<p>Selects whether the stay-ON time is set in seconds or minutes.</p>	
Presence stay-ON time	1-255; (10)
<p>The stay-ON time can be set to a period of between 1 and 255 seconds. It is restarted each time a movement is detected.</p> <p><u>Note</u>: a "presence output = OFF" signal is delivered if a person in the detection zone remains still during the time set here. Depending on the person's activity, it may be necessary to select a longer stay-ON time.</p>	
Break in presence detection	0-255; (0)
<p>If lighting is switched OFF via the light-level control, the configured "Break in presence detection" is started. It can be set to between 0 and 255 seconds. Movements detected are ignored during the period selected. This provides the capability of preventing lights installed in the sensor system's detection range causing the detection presence and incorrect signaling due to temperature changes when the light is switched OFF.</p>	

Parameters	Settings
Switch-ON delay and stay-ON time can be read / changed via bus	Yes; no
<p>This parameter is used for selecting whether or not the presence detection switch-ON delay and stay-ON time can read and changed via bus.</p> <p><u>Yes</u>: communication objects 9 and 10 are added so that the presence-detection switch-ON delay and stay-ON time can be set via bus. These objects not only provide the capability of changing both values via the bus. They can also be used for requesting the current value irrespective of whether it was entered via ETS, service remote control or bus.</p> <p><u>No</u>: the presence-detection switch-ON delay and stay-ON time cannot be read or set via bus.</p>	
Send presence cyclically	inactive; 15 s; 30 s; 1 min; 5 min; 10 min; 15 min; 30 min; 60 min
<p>This parameter is used for selecting whether not only to send the "Presence Output" object after any change but also cyclically and, if so, after which cycle time.</p>	
Disable presence output	No; disabling with ON / enabling with OFF; disabling with OFF / enabling with ON
<p>This parameter is used for selecting whether to add object 2 "Disable Presence Output" and which telegram to use for disabling and re-enabling the "Presence Output" object. No presence messages are sent while the "Presence Output" object is disabled.</p> <p><u>No</u>: the "Disable Presence Output" object is not available.</p> <p><u>Disabling with ON / enabling with OFF</u>: the "Presence Output" object is disabled by a telegram with value "1" and enabled by a telegram with value "0".</p> <p><u>Disabling with OFF / enabling with ON</u>: the "Presence Output" object is disabled by a telegram with value "0" and enabled by a telegram with value "1".</p>	
Behaviour on disabling presence output	no action; ON telegram; OFF telegram
<p>This parameter is only visible if the preceding "Disable presence output" parameter is <u>not</u> set to "No".</p> <p>This parameter is used for selecting whether to send a telegram from the "Presence Output" object before disabling it and, if so, with which value.</p> <p><u>no action</u>: no telegram is sent before disabling the "Presence Output" object.</p> <p><u>ON telegram</u>: before disabling the "Presence Output" object, the object is set to the value "1" and a corresponding telegram is sent.</p> <p><u>OFF telegram</u>: before disabling the "Presence Output" object, the object is set to the value "0" and a corresponding telegram is sent.</p>	
Behaviour on enabling presence output	Set presence to current status; ON telegram; OFF telegram
<p>This parameter is only visible if the preceding "Disable presence output" parameter is <u>not</u> set to "No".</p> <p>This parameter is used for selecting what is to happen after enabling the "Presence Output" object.</p> <p><u>Set presence to current status</u>: after enabling the "Presence Output" object, it is set to the status ascertained by the detector, with this status being sent.</p> <p><u>ON telegram</u>: after enabling the "Presence Output" object, the object is set to the value "1" and a corresponding telegram is sent. After a delay of 5 seconds, the sensor mode is then re-activated, the current presence status determined and any changed value sent.</p> <p><u>OFF telegram</u>: after enabling the "Presence Output" object, the object is set to the value "0" and a corresponding telegram is sent. After a delay of 5 seconds, the sensor mode is then re-activated, the current presence status determined and any changed value sent.</p>	
Presence output disabling status object	No; send after change
<p>This parameter is used for selecting whether to add object 3 "Presence Output Disabling Status" and, if so, when it is to be sent. Object value "1" is then used to report that presence detection is disabled, with object value "0" being used to report that it is enabled again.</p>	

11.4 "Lighting" parameter window

This parameter window is always available, except for when a detector is operating as a "slave". It is used for setting the operating behaviour during lighting control.

Parameters	Settings
Number of lighting groups	1; 2; 3; 4
<p>This parameter is used for selecting how many lighting groups contribute to room lighting. If several lighting groups are installed, the presence detector with light-level sensor must be installed within lighting group 1. In cases where several presence detectors are being operated in a room, the presence detector for lighting group 1 should work as the master. The detector for lighting group 1 should then be positioned as closely to the door as possible so that it can immediately detect anyone entering the room.</p> <p>If the "switching mode" has been selected for controlling light level (this being the equivalent of two-point control), lighting group 1 is always switched ON first when presence is detected and the level of light measured is below the light-level setting. If the measured level is then still below the pre-selected level, lighting group 2 is switched ON and so forth. If the level of light is sufficient, lighting groups are always switched OFF in the reverse order, i.e. the lighting group with the highest number is switched OFF first followed by the one with the second-highest number and so on.</p> <p>If "constant-lighting control" has been selected as the mode for controlling the level of light, all lighting groups are switched ON at max. output when a person enters the room and the measured level of light is below the light-level setting. They are then dimmed down until the light-level setting and the measured light level coincide (allowing for permissible variation). In this case, only lighting group 1 is dimmed to the dimming level determined by the light-level controller. All other lighting groups are dimmed up or down by a level that can be set individually for each lighting group depending on whether it is installed close to the window or further away from it.</p> <p>Depending on the selected number of lighting groups, the respective objects 14 to 21 are automatically added for switching and dimming a lighting group by the light-level controller as well as objects 24 to 35 that provide the capability of operating, dimming or setting the particular lighting group to a dimming level via a button.</p>	
Operating lighting	automatically ON and OFF (fully automatic operation); automatically OFF only (semi-automatic operation)
<p>This parameter is used for selecting whether to switch lighting ON and OFF automatically in relation to presence and light level (fully automatic operation) or whether only to switch it OFF automatically (semi-automatic operation). On entering the room or if the level of light is no longer sufficient, the room user must then switch the lighting ON manually.</p> <p>automatically ON and OFF: lighting is switched ON and OFF in relation to presence and light level (fully automatic operation).</p> <p>automatically OFF only: the room user must switch the lighting ON manually. It is, however, switched OFF automatically when no persons are present or the level of light is sufficient (semi-automatic operation).</p>	
Lighting stay-ON time (in minutes)	0 (IQ mode); 1-255
<p>Lighting stay-ON time is started if no presence is detected. It is either automatically matched in "IQ mode" to the time persons spend in the room (i.e. increasing in duration the longer persons have been present in the room) or can be set to a fixed value. This has the purpose of preventing the lighting from switching OFF immediately if the room is only vacated for a short time and having to be switched back ON again and slowly dimmed to the light-level setting when a person returns to the room.</p> <p>0 (IQ mode): the stay-ON time automatically adjusts to the time persons spend in the detection zone.</p> <p>1-255: the lighting stay-ON time can be set to a fixed period of between 1 and 255 minutes.</p>	
Stay-ON time can be read / changed via bus	Yes; no
<p>This parameter is used to select whether or not the lighting-control stay-ON time can be read and changed via bus.</p> <p>Yes: communication object 13 is added so that the lighting-control stay-ON time is selectable via the bus. This object not only provides the capability of changing the value via the bus. It can also be used for requesting the current value irrespective of whether it was entered via ETS, service remote control or bus.</p> <p>No: the lighting-control stay-ON time cannot be read and set via bus.</p>	

Parameters	Settings
Disabling light-level control	No; disabling with ON / enabling with OFF; disabling with OFF / enabling with ON
<p>This parameter is used for selecting whether to add object 22 "Disable light-level control" and which telegram can be used for disabling and re-enabling the light-level control. If the light-level control is disabled, no telegrams are sent for switching lighting ON and OFF or for dimming it.</p> <p>No: the "Disable Light-Level Control" object is not available.</p> <p>Disabling with ON / enabling with OFF: the light-level control is disabled via a telegram with value "1" to the "Disable Light-Level Control" object and enabled via a telegram with value "0".</p> <p>Disabling with OFF / enabling with ON: the light-level control is disabled via a telegram with value "0" to the "Disable Light-Level control" object and enabled via a telegram with value "1".</p>	
Behaviour on disabling light-level control	no action; light ON; light OFF
<p>This parameter is only visible if the preceding "Disabling light-level control" parameter is <u>not</u> set to "No".</p> <p>This parameter is used to select whether to switch lighting ON or OFF completely before disabling light-level control or whether to leave the lighting status unchanged.</p> <p>no action: no further action takes place before disabling light-level control.</p> <p>Light ON: lighting is switched to max. output before disabling light-level control.</p> <p>Light OFF: lighting is switched OFF completely before disabling light-level control.</p>	
Behaviour on enabling light-level control	Continuing control; light ON; light OFF
<p>This parameter is only visible if the preceding "Disabling Light-Level Control" parameter is <u>not</u> set to "No".</p> <p>This parameter is used to select whether, once enabled, light-level control is to resume its activity, proceeding from the current dimming level as well as in relation to presence status and light level measured, or whether to switch the lighting ON or OFF completely first.</p> <p>Continuing control: after enabling light-level control, it determines which level of output - in relation to presence status and level of light currently being measured - to switch or dim the lighting to.</p> <p>Light ON: lighting is switched to max. output after enabling light-level control. Presence-related light-level control is reactivated after a delay of 5 seconds.</p> <p>Light OFF: lighting is switched OFF completely after enabling light-level control. Presence-related light-level control is reactivated after a delay of 5 seconds.</p>	
Light-level control disabling status object	No; send after change
<p>This parameter is used for selecting whether to add object 23 "Light-Level Control Disabling Status" and, if so, when it is to be sent. Object value "1" is then used to report that light-level control is disabled, with object value "0" being used to report that it is enabled again.</p>	
Basic illumination	active; inactive
<p>If required, a presence detector installed, for example, in entrances, corridors or stairwells, can be set to provide basic illumination either for a limited period at the end of the stay-ON time or always when the light level falls below a threshold so that it is never completely dark in these areas.</p> <p>active: the "Basic Illumination" parameter window is additionally available for selecting how to provide basic illumination, from when and for how long.</p> <p>inactive: the "basic illumination" function is not available.</p>	
Interference source switching status object	Yes; no
<p>This parameter is used for selecting whether to add the "Interference Source Switching Status" object. If necessary, this object can be linked with the switching objects of those lights located in the sensor system's detection zone. The presence detector can then identify whether the movement detected is from a person or a light coming ON within the detection zone.</p>	

11.5 "Light-Level Controller" parameter window

This parameter window is always available, except for when a detector is operating as a "slave". It is used for setting light-level control behaviour.

Parameters	Settings
Type of light-level control	Switching mode; constant lighting control
<p><u>Switching mode</u>: this mode is to be set if the room lighting is only to be able to be switched ON and OFF. The presence detector then switches the lighting ON (if applicable by group where several lighting groups are installed) when presence is detected and the level of light being measured is below the light-level setting, and OFF again (also by group, if applicable) either when presence is no longer being detected or daylight is sufficient for illuminating the room. <u>Constant-lighting control</u>: this mode must be set if the capability is not only to be provided for switching room lighting ON and OFF but also for dimming it. The presence detector switches the lighting ON when presence is detected and the level of light being measured is below the light-level setting and dims it until the light-level measured coincides with the light-level setting selected. Lighting is switched OFF when no person is remaining in the room or so much daylight is entering the room that the lighting is dimmed to below the minimum dimming level.</p>	
Daytime operation	Yes; no
Setting to define whether the presence detector is to operate irrespective of light level	
Light-level setting (in lux)	10-1000 (500)
This parameter is used for selecting the setting for light level control.	
Light-level setting can be read / changed via bus	Yes ; no
<p>This parameter is used for selecting whether the setting for controlling light level can be read and changed via bus. <u>Yes</u>: communication object 12 "Light-level setting" is added. This object not only provides the means for changing the setting via the bus, but also for requesting the current level irrespective of whether it was entered via ETS, service remote control or bus. <u>No</u>: the light-level setting can only be selected using the parameter above.</p>	
ON level in conjunction with constant-lighting control	1-100% (80%)
This parameter defines the ON level in % when constant-lighting control is activated.	
Max. variation from the set value	15 lux; 30 lux ; 45 lux; 60 lux
<p>This parameter is only visible if the "Type of Light-Level Control" parameter is set to "constant-lighting control". It defines the precision with which the required level of light is controlled. This is necessary because lighting is controlled in dimming steps. Setting an insufficient maximum variation from the set level can therefore sometimes result in a further "brighter" adjustment step exceeding the set level and in a further "darker" adjustment step taking illumination below the set level. This leads to light being dimmed or brightened all the time (i.e. continuously fluctuating light level). If this is the case, the max. permissible variation from the set level must either be increased or the dimming step reduced.</p>	
Max. dimming step	0.5%; 1%; 1.5%; 2% ; 2.5%; 3%; 5%
<p>This parameter is only visible if the "Type of Light-Level Control" parameter is set to "constant-lighting control". This parameter is used for setting the maximum dimming "step" (this being the maximum level by which a new dimming level may increase or decrease from the previous level with constant-lighting control). Note: the larger the "Max. dimming step", the smaller the "Max. variation from the set value" should be.</p>	
Send new dimming level after	0.5 s; 1 s; 2 s ; 3 s; 4 s; 5 s
<p>This parameter is only visible if the "Type of Light-Level Control" parameter is set to "constant-lighting control". This parameter is used for setting the delay after which a new dimming level is sent in constant-lighting control mode. This ensures that even if actuator dimming times are short they do not result in constant-lighting control producing any abrupt change in light level that a room user may find unpleasant.</p>	

Parameters	Settings
Lighting with sufficient daylight	switch OFF ; dim to minimum level
<p>This parameter is only visible if the "Type of Light-Level Control" parameter is set to "constant-lighting control". This parameter is used for selecting whether to switch the lighting OFF completely when presence = ON and there is sufficient daylight or whether to leave it ON but dim it to the selectable "minimum dimming level". <u>switch OFF</u>: the lighting is switched OFF when the dimming level determined by the light-level controller is below the "minimum dimming level" selected. It is automatically switched back ON again as soon as the dimming level measured by the light-level controller coincides with or exceeds the "minimum dimming level" selected. <u>dim to minimum dimming level</u>: lighting remains switched ON and is dimmed to "minimum dimming level" even if the dimming level measured by the light-level controller is below the "minimum dimming level" selected. It is only brightened again when the dimming level measured by the light-level controller is above the "minimum dimming level" selected.</p>	
Minimum dimming level	0.5% ; 1%; 2%; 3%; 4%; 5%; 6%; 7%; 8%; 9%; 10%
<p>This parameter is only visible if the "Type of Light-Level Control" parameter is set to "constant-lighting control". If the light-level controller measures a dimming level that is below the level set here, lighting is switched OFF or left ON and dimmed to the level selected via the preceding parameter.</p>	
Lighting group 2 offset to dimming level for lighting-group 1	-100% - 0% - +100%
<p>This parameter is only visible if the "Type of Light-Level Control" parameter is set to "constant-lighting control" and the "Number of Lighting Groups" parameter is set to a value ≥ 2 in the "Lighting" parameter window. This parameter is used for selecting the offset value for lighting group 2 that must be added to or subtracted from the dimming level measured by the light-level controller for lighting group 1 (depending on whether lighting group 2 is further away from or closer to the window than lighting group 1) to provide a workplace below lighting group 2 with a level of light that is also more or less the same as that provided at the light-level setting selected for lighting group 1.</p>	
Lighting group 3 offset to dimming level for lighting-group 1	-100% - 0% - +100%
<p>This parameter is only visible if the "Type of Light-Level Control" parameter is set to "constant-lighting control" and the "Number of Lighting Groups" parameter is set to a value ≥ 3 in the "Lighting" parameter window. This parameter is used for selecting the offset value for lighting group 3 that must be added to or subtracted from the dimming level measured by the light-level controller for lighting group 1 (depending on whether lighting group 3 is further away from or closer to the window than lighting group 1) to provide a workplace below lighting group 3 with a level of light that is also more or less the same as that provided at the light-level setting selected for lighting group 1.</p>	
Lighting group 4 offset to dimming level for lighting-group 1	-100% - 0% - +100%
<p>This parameter is only visible if the "Type of Light-Level Control" parameter is set to "constant-lighting control" and the "Number of Lighting Groups" parameter is set to the value 4 in the "Lighting" parameter window. This parameter is used for selecting the offset value for lighting group 4 that must be added to or subtracted from the dimming level measured by the light-level controller for lighting group 1 (depending on whether lighting group 4 is further away from or closer to the window than lighting group 1) to provide a workplace below lighting group 4 with a level of light that is also more or less the same as that provided at the light-level setting selected for lighting group 1.</p>	
Light-level control for dim light x input	disable and dim; do not disable and alter set value
<p><u>disable and dim</u>: if a telegram is received via the "Dim Light x Input" object, light-level control is disabled and the addressed lighting group dimmed. This setting is recommended if room lighting consists of several lighting groups. <u>do not disable and alter set value</u>: light-level control is not disabled after receiving a telegram via the "Dim Light x Input" object. After receiving a telegram, a delay of approx. 5 seconds elapses before the new light-level value is adopted as the set value. This setting is recommended if only one lighting group is used for illuminating the room.</p>	

Parameters	Settings
External light-level sensor	Yes; no
This parameter is used for activating an input object for external light-level measurement. This value is used instead of the light level measured internally.	

11.6 "HVAC" parameter window

This parameter window is only available if the detector is not being operated as a "slave" and the "HVAC output" parameter is then set to "active" in the "General Settings" parameter window. It is used for setting HVAC control behaviour.

Parameters	Settings
HVAC switch-ON delay (in minutes)	0 (room surveillance); 1-255
This switch-ON delay is independent of the switch-ON delay for presence detection. It begins from the time at which the detector has identified the presence of a person. It has the purpose of preventing the room-temperature control system from immediately switching over to "comfort mode" in response to a person entering the room for a brief period only. It is either matched automatically by the detector to the time persons spend in the room or can be set to a fixed period. <u>0 (room surveillance)</u> : the switch-ON delay is automatically matched to the time persons spend in the detection zone. <u>1-255</u> : the switch-ON delay can be set to a fixed period of between 1 and 255 minutes.	
HVAC stay-ON time (in minutes)	1-255 (15)
HVAC stay-ON time is started if no presence is detected. This has the purpose of preventing the "comfort mode" for controlling room-temperature - along with heating and cooling - from ending as soon as the room is vacated, particularly when the room is entered again a short time afterwards and continues to be used. <u>1-255</u> : the HVAC stay-ON time can be set to a fixed period of between 1 and 255 minutes.	
Switch-ON delay and stay-ON time can be read / changed via bus	Yes; no
This parameter is used for selecting whether or not the HVAC-control switch-ON delay and stay-ON time is able to be read and changed via bus. <u>Yes</u> : communication objects 39 and 40 are added so that the HVAC-control switch-ON delay and stay-ON time can be set via bus. These objects not only provide the capability of changing both values via the bus. They can also be used for requesting the current value irrespective of whether it was entered via ETS, service remote control or bus. <u>No</u> : the HVAC-control switch-ON delay and stay-ON time cannot be read or selected via bus.	
Disable HVAC output	No; disabling with ON / enabling with OFF; disabling with OFF / enabling with ON
This parameter is used for selecting whether to add object 37 "Disable HVAC Output" and which telegram to use for disabling and re-enabling the "HVAC output". If the "HVAC Output" object is disabled, the HVAC will not be controlled, i.e. the "HVAC Output" object is not sent. <u>No</u> : the "Disable HVAC Output" object is not available. <u>Disabling with ON / enabling with OFF</u> : the "HVAC Output" object is disabled by a telegram received with the value "1" for the "Disable HVAC Output" object and enabled by a telegram with the value "0". <u>Disabling with OFF / enabling with ON</u> : the "HVAC Output" object is disabled by a telegram received with the value "0" for the "Disable HVAC Output" object and enabled by a telegram with the value "1".	

Parameters	Settings
Behaviour on disabling HVAC output	no action; ON telegram; OFF telegram
This parameter is only visible if the preceding "Disable HVAC Output" parameter is <u>not</u> set to "No". This parameter is used for selecting whether to set the "HVAC Output" object to a specific value before disabling it and whether to send this value. <u>no action</u> : no telegram is sent before disabling the "HVAC Output" object. <u>ON telegram</u> : before disabling the "HVAC Output" object, the object is set to the value "1" and a corresponding telegram is sent. <u>OFF telegram</u> : before disabling the "HVAC Output" object, the object is set to the value "0" and a corresponding telegram is sent.	
Behaviour on enabling HVAC output	Set HVAC output to current status; ON telegram; OFF telegram
This parameter is only visible if the preceding "Disable HVAC Output" parameter is <u>not</u> set to "No". This parameter is used for selecting what is to happen after enabling the "HVAC Output" object. <u>Set HVAC output to current status</u> : after enabling the "Presence Output" object, it is set to the status ascertained by the detector, with this status being sent. <u>ON telegram</u> : after disabling the "HVAC Output" object, it is set to the value "1" irrespective of presence status and a corresponding telegram sent. After a delay of 5 seconds, the detector takes into account the current presence status and determines which value the "HVAC output" is currently to be set to and sends a changed value where necessary. <u>OFF telegram</u> : after disabling the "HVAC Output" object, it is set to the value "0" irrespective of presence status and a corresponding telegram sent. After a delay of 5 seconds, the detector takes into account the current presence status and determines which value the "HVAC output" is currently to be set to and sends a changed value where necessary.	
HVAC output disabling status object	No; send after change
This parameter is used for selecting whether to add object 38 "HVAC Output Disabling Status" and, if so, when it is to be sent. Object value "1" is then used to report that HVAC control is disabled, with object value "0" being used to report that it is enabled again.	

11.7 "Light Level Measured" parameter window

This parameter window is only available if the detector is not being operated as a "slave" and the "light level measured" parameter is then set to "active" in the "General Settings" parameter window.
Note: if the LED lights up permanently, e.g. in 4 h ON/OFF mode or for a selected scene, the light level is not measured. No telegram is sent via the bus during this time.

Parameters	Settings
Min. light-level change	20 lux; 30 lux; 40 lux; 50 lux; 60 lux
This parameter is used to select which level the light-level value last sent must have changed by before the light level measured is to be sent again.	
Send measured level cyclically	inactive; 10 s; 15 s; 30 s; 1 min; 5 min; 10 min; 15 min; 30 min; 60 min
This parameter is used to select whether or after which cycle time to send the "Light Level Measured" object, even if the light level measured has not changed in the meantime.	

11.8 "Scene Control" parameter window

This parameter window is only available if the detector is not being operated as a "slave" and if the "Remote control" parameter is then either set to "User" or to "Program & User" in the "General Settings" parameter window.
It is used for setting the four scene numbers for the 8-bit scene control, the scenes of which can be saved and selected using the "User" IR remote control.

Parameters	Settings
Scene number [1 to 64] for scene 1 button (0 = no assignment)	0-64
This parameter is used for assigning a scene number in the range from 1 to 64 to the buttons for saving or selecting scene 1 on the "User" IR remote control. 0 means "no scene assigned". No scene telegram is then sent via the bus. If a scene is selected before it has been saved, scene selection remains without any response.	
Scene number [1 to 64] for scene 2 button (0 = no assignment)	0-64
This parameter is used for assigning a scene number in the range from 1 to 64 to the buttons for saving or selecting scene 2 on the "User" IR remote control. 0 means "no scene assigned". No scene telegram is then sent via the bus. If a scene is selected before it has been saved, scene selection remains without any response.	
Scene number [1 to 64] for scene 3 button (0 = no assignment)	0-64
This parameter is used for assigning a scene number in the range from 1 to 64 to the buttons for saving or selecting scene 3 on the "User" IR remote control. 0 means "no scene assigned". No scene telegram is then sent via the bus. If a scene is selected before it has been saved, scene selection remains without any response.	
Scene number [1 to 64] for scene 4 button (0 = no assignment)	0-64
This parameter is used for assigning a scene number in the range from 1 to 64 to the buttons for saving or selecting scene 4 on the "User" IR remote control. 0 means "no scene assigned". No scene telegram is then sent via the bus. If a scene is selected before it has been saved, scene selection remains without any response.	

11.9 "Basic Illumination" parameter window

This parameter window is only available if the detector is not being operated as a "slave" and if the "Basic Illumination" parameter is then set to "active" in the "Lighting" parameter window. It is used for setting the properties of the chosen basic illumination, e.g. for foyers, stairwells and corridors.

Parameters	Settings
Basic illumination via	special switching object; dimming level to light 1 output
<u>special switching object</u> : object 42 "Switch Basic Illumination Output" is added for switching the lights for basic illumination ON and OFF. <u>dimming level for light 1 output</u> : lighting group 1 dimmed to "basic illumination dimming level" is used as basic illumination.	
Basic illumination ON	for a limited time ; depending on light level; depending on outdoor light level (ext. sensor)
<u>for a limited time</u> : expiry of the "lighting stay-ON time" does not result in lighting being switched OFF completely, rather it results in the basic illumination being activated for a limited time. <u>depending on light level</u> : the following "Basic Light-Level Threshold (in lux)" parameter is added. When no presence is being identified by the detector, this does not result in lighting being switched OFF, rather it results in the basic illumination being activated if the level of light measured at this time by the detector is below the "basic light-level threshold (in lux)". It remains switched ON until either presence is detected or the level of light measured by the detector significantly exceeds the "basic light-level threshold (in lux)". <u>depending on outdoor light level (ext. sensor)</u> : communication object 43 "Twilight Sensor Input" is added for receiving the level of outdoor light measured by the twilight sensor as well as the following "Basic Light-Level Threshold (in Lux)" parameter. Depending on whether the actual light level exceeds or falls below the "basic light-level threshold (in lux)" selected, basic illumination is switched ON or OFF again <u>regardless of presence</u> .	

Parameters	Settings
Basic light-level threshold (in lux)	1-1000 (50)
This parameter is only visible if the preceding "Basic Illumination ON" parameter is set to "in relation to light level" or "in relation to outdoor light level (ext. sensor)". This parameter is used for setting the threshold at which basic illumination is activated if the threshold is not met, and at which it is deactivated again if the threshold is significantly exceeded. This takes place irrespective of whether persons are present in the room or not.	
Basic illumination dimming level	1-100% (10%)
This parameter is only visible if the preceding "Basic illumination via" parameter is set to "dimming level for light 1 output". This parameter is used for setting the dimming level to which lighting is dimmed after expiry of the stay-ON time. The following parameter is used for setting how long basic illumination remains switched ON for.	
Basic illumination ON period (in minutes)	1-255 (15)
This parameter is only visible if the "Threshold and ON Period Can Be Read / Changed via Bus" parameter is set to "Yes". Basic illumination is switched OFF after expiry of the ON period that is set here.	
Threshold and ON period can be read / changed via bus	Yes; no
This parameter is used for selecting whether or not the threshold for switching basic illumination ON/OFF and the basic illumination ON period can be read and changed via bus. <u>Yes</u> : communication objects 44 and 45 are added so that the threshold and ON period of the basic illumination can be set via bus. These objects not only provide the capability of changing both values via the bus. They can also be used for requesting the current value irrespective of whether it was entered via ETS, service remote control or bus. <u>No</u> : the threshold and basic illumination ON period cannot be read and changed via bus.	

11.10 "Sabotage" parameter window

This parameter window is only available when the "Sabotage" parameter is set to "active" in the "General Settings" parameter window. It is used for setting sabotage-protection properties.

Parameters	Settings
Send measured level cyclically	inactive ; 10 s; 15 s; 30 s; 1 min; 5 min; 10 min; 15 min; 30 min; 60 min
This parameter is used to select whether or after which cycle time to send the "Light Level Measured" object, even if the light level measured has not changed in the meantime.	
Telegram	ON ; OFF
This parameter defines whether to send an ON telegram or OFF telegram cyclically.	

11.11 "Temperature Measured" parameter window

Parameters	Settings
Min. change in temperature	0.1 - 25.5°C (1°C)
This parameter is used to select by which level the temperature last sent must have changed before the temperature is re-sent.	
Send temperature cyclically	0 - 25.5 min (0)
This parameter is used to select whether or after which cycle time to send the temperature, even if the temperature has not changed in the meantime. <u>0</u> : it is not sent cyclically.	

11.12 "Humidity Measured" parameter window

Parameters	Settings
Min. change in humidity	0.1 - 25.5% (1%)
This parameter is used to select which level the humidity last sent must have changed by before humidity is re-sent.	
Send humidity change cyclically	0 - 25.5 min (0)
This parameter is used to select whether or after which cycle time to send the humidity, even if the humidity has not changed in the meantime. 0: it is not sent cyclically.	

11.13 "Encoder Button" parameter window

Parameters	Settings
1-byte encoder function	0-255; 0-100%
This parameter is only visible if the "Button Function" parameter is set to "1-byte encoder". This parameter is used for setting the 1-byte data type.	
2-byte encoder function	0-65535; 0-1500 lux; 0-40°C
This parameter is only visible if the "Button Function" parameter is set to "2-byte encoder". This parameter is used for setting the 2-byte data type.	
Starting value 0-255	0-255 (1)
This parameter is only visible if the "1-Byte Encoder Function" parameter is set to "0-255". This parameter is used to define the starting value that is issued on briefly pressing the button.	
Starting value 0-100%	0-100% (1%)
This parameter is only visible if the "1-Byte Encoder Function" parameter is set to "0-100%". This parameter is used to define the starting value that is issued on briefly pressing the button.	
Starting value 0-65535	0-65535 (1)
This parameter is only visible if the "2-Byte Encoder Function" parameter is set to "0-65535". This parameter is used to define the starting value that is issued on briefly pressing the button.	
Brightness starting value	0-1500 lux (50 lux)
This parameter is only visible if the "2-Byte Encoder Function" parameter is set to "0-1500 lux". This parameter is used to define the starting value that is issued on briefly pressing the button. The value can be set in 50-lux increments.	
Temperature starting value	0-40°C (1°C)
This parameter is only visible if the "2-Byte Encoder Function" parameter is set to "0-40°C". This parameter is used to define the starting value that is issued on briefly pressing the button.	
Value adjustment via long button press	Yes/no
This parameter is used to define whether the starting value can be adjusted via a long button press.	
Value adjustment starting value	Starting value; consecutive
This parameter is only visible if the "Value Adjustment via Long Button Press" parameter is set to "Yes". This parameter is used to set the value at which values start to be adjusted.	
1-Byte increment	0-20 (20)
This parameter is only visible if the "Value Adjustment via Long Button Press" parameter is set to "Yes" and the "Button Function" parameter is set to "1-Byte Encoder". This parameter is used to set the increment by which the value changes in response to a long button press.	
Increment 0-65535	0-1000 (1)
This parameter is only visible if the "Value Adjustment via Long Button Press" parameter is set to "Yes" and the "2-Byte Encoder Function" parameter is set to "0-65535". This parameter is used to set the increment by which the value changes in response to a long button press.	

Parameters	Settings
Time between telegrams	0-5 (1)
This parameter is only visible if the "Value Adjustment via Long Button Press" parameter is set to "Yes". This parameter is used to set the interval by which the value is increased in response to a long button press.	
Overrun	Yes; no
This parameter is only visible if the "Value Adjustment via Long Button Press" parameter is set to "Yes". This parameter is used to define whether adjustment stops at the maximum value or restarts automatically at 0.	

11.14 "Scene Control Button" parameter window

Parameters	Settings
Scene number [1 to 64] for button (0 = no assignment)	0-64 (0)
This parameter is used for assigning a scene number in the range from 1 to 64 to the button. 0 means "no scene assigned". No scene telegram is then sent via the bus. If a scene is selected before it has been saved, scene selection remains without any response.	

11.15 "Internal Switching/Dimming Button" parameter window

Parameters	Settings
Lighting group (only select active group)	0-4 (1)
This parameter assigns to the button an internal lighting group that to be switched ON/OFF and dimmed via the button.	