STEINEL PROFESSIONAL

KNX EIB

sensIQ S KNX

Calibration Description

Contents

1. Detector functions

The sensIQ S PIR presence detector 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. The detector is capable of performing the following functions:

1.1 Functions:

- Light output - lighting is switched ON and OFF in relation to ambient brightness including basic light level function,
- Presence output - switching response irrespective of ambient brightness,
- Close-up range output - signals detection in the close-up range,
- Photoelectric lighting controller,
- Light level measured.

The function to be used (activated) is defined by the "General Settings" parameter window using the ETS3.f version of the Engineering Tool Software (ETS) and higher.
Each of the detector functions provides the capability of setting a period after which a detected movement is to result in activation of the function concerned, of defining when the function concerned is to be deactivated again after detecting the last movement and of defining any light level from which the function is to be activated or deactivated.

1.2 Light output:

When the light output is used for controlling lighting, it is switched ON as soon as anyone enters the detection zone after darkfall but only OFF again some time after the last person leaves the detection zone. If a person returns to the detection zone shortly after leaving it, the area is still illuminated, saving the need to switch the light back ON again. "Stay-ON time" is set to a fixed period. The soft-start function allows you to choose the option of switching light ON and OFF abruptly or of selecting "soft start" which is particularly pleasant on the human eye as light is switched ON and OFF across a dimming ramp. A further setting is provided in the form of the basic light level function. As soon as ambient brightness falls below the defined threshold, a basic level of lighting is switched ON and can be dimmed to between 10 and 50%.

1.3 Presence output

This function watches over the detection zone. 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.

1.4 Close-up range output:

You can only use this function for watching over the close-up range near the sensor and operate further actuators in relation to movement detected in the close-up range.

1.5 Photoelectric lighting controller:

The photoelectric lighting controller defines a light level threshold (independently of the light output) at which an actuator is switched ON irrespective of detected movement when ambient brightness falls below this defined light level. This means that several lights can be switched ON at dusk, with further lights then being switched ON via the light output when movement is detected.

1.6 Light level measured:

The light level measured function emits the level of light currently being measured at the motion detector's light level sensor either after light level changes by a defined minimum amount and/or cyclically after a defined interval.

2. IR remote control

The sensIQ S comes with an IR remote control for setting various functions. Manual override (duration ON/OFF), holiday function, light level by teach-IN (function learns current light level) and reset.

3. Test mode

The motion detector's "lighting test mode"can be switched ON and OFF by means of the ETS.
"Lighting test mode" is used for testing reach. Lighting is switched ON in response to any movement detected and regardless of ambient brightness. To do this, the detector must have been parameterised by 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. In addition, the lighting stay-ON time is set to 8 s for the duration of this test mode irrespective of the parameters selected for the presence detector. No other function is active.

4. Behaviour after bus voltage fails and returns as well as on re-starting and downloading

In the event of bus voltage failure, the motion detector also ceases to operate as its electronic system is powered by the bus voltage. Before bus voltage failure, all user entries are saved (light level setting, stay-ON time, photoelectric lighting controller setting, remote-control code, all disable statuses, all night lengths) so they can be restored automatically when bus voltage returns after bus voltage failure.
After bus voltage returns and after completely or partially uploading the product database to the presence detector by ETS (i.e. after re-starting) , the motion detector is disabled for approx. 40 seconds. Lighting is switched ON at the start of disabling time and switched OFF for approx. 2 seconds at the end of disabling time. From then on, the detector is ready for operation and sends the latest telegrams (outputs, light, presence, close-up range, photoelectric lighting controller and light level measured) if the relevant outputs were not disabled before bus voltage failed.

5. Behaviour after initial start-up and unloading

When installing a brand-new motion detector, it automatically goes into "presence test mode" as soon as the bus voltage is applied. In this mode, the red LED integrated in the motion detector flashes to indicate any movement detected. 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 calibration programme is "unloaded" by ETS, the presence detector automatically goes into "presence test mode" in just the same way as it does after initial start-up.

6. Communication objects

A full list of the communication objects provided for the motion detector is shown below. Those visible and capable of being linked with group addresses are determined by the settings in the "General Settings" parameter window as well as by other parameter setting for chosen functions and communication objects.

Obj	Name of premises	Function	DP type	Flags
0	Switch light ON/OFF output	ON/OFF	1,001 (1 bit)	CRT
1	Light output dimming level	0…100%	5,001 (8 bit)	CRT
2	Switch light ON/OFF input	ON/OFF	1,001 (1 bit)	CWT
3	Disable light output	ON/OFF	1,001 (1 bit)	CWT
4	Light output disabling status	ON/OFF	1,001 (1 bit)	CRT
5	Light-level setting	(2 to 2000 lux)	9,004 (16 bit)	CRWT
6	Time factor for light stay-ON time	1…15	5,005 (8 bit)	CRWT
7	Presence output	ON/OFF	1,001 (1 bit)	CRT
8	Disable presence output	0…255	1,001 (1 bit)	CWT
9	Presence output disabling status	(2 to 2000 lux)	1,001 (1 bit)	CRT
10	Close-up range output	ON/OFF	1,001 (1 bit)	CRT
11	Disable close-up range output	ON/OFF	1,001 (1 bit)	CRT
12	Close-up range output disabling status	ON/OFF	1,001 (1 bit)	CRT
13	Photoelectric lighting controller output	0…100%	1,001 (1 bit)	CRT
14	Light level threshold	(2 to 300 lux)	9,004 (16 bit)	CRWT
15	Disable photoelectric lighting controller	ON/OFF	1,001 (1 bit)	CRT
16	Photoelectric lighting controller disabling status	ON/OFF	1,001 (1 bit)	CRT
17	Light level measured	(2 to 2000 lux)	9,004 (16 bit)	CRWT

Obj	Name of premises	Function	DP type	Flag
0	Switch light ON/OFF output	ON/OFF	1,001 (1 bit)	CRT
This object is always available. This object must be linked with the switching object of the actuator used for switching the lighting ON and OFF.				
1	Light output dimming level	0…100%	5,001 (8 bits)	CRT
This object is only visible if the "the "soft start" parameter is set to "Yes" in the "Light output" parameter window, or if the "basic light level" parameter is set to "active". This object must be linked with the dimming-level object of the actuator used for dimming lighting to the level being received. The group address linked with this object is used for sending the dimming value by bus to the actuator; this value can also be requested from the detector.				
2	Switch light ON/OFF input	ON/OFF	1,001 (1 bit)	CWT
This object is always available. It must be linked with the switching object of the pushbutton the user can switching lighting ON and OFF with. If a telegram is received through this object, lighting will be operated in line with the telegram's value and the "action at light input" parameter in the "Light output" parameter window.				

Obj	Name of premises	Function	DP type	Flag
3	Disable light output	ON/OFF	1,001 (1 bit)	CWT
This object is only visible if the "disable light output" parameter is not set to "No" in the "Light output" parameter window. The "disable light output" parameter is also used for selecting whether disabling is to take place on receiving a value of "1" or on receiving a value of "0". When the output is disabled, the detector does not automatically send any telegrams for operating or dimming lighting. Telegrams received by the sensor from the "switch light ON/OFF input" object are sent to the "switch light ON/OFF output" object.				
4	Light output disabling status	ON/OFF	1,001 (1 bit)	CRT
This object is only visible if the "disable light output" parameter is not set to "No" in the "Light output" parameter window. The group address linked with this object is used for automatically sending the output's disabling status by bus after any change; the disabling status can be requested from the detector at any time.				
5	Light-level setting	(2 to 2000 lux)	9,004 (16 bit)	CRWT
This object is only visible if the relevant "changeable by bus" parameter is set to "Yes" in the "Light output" parameter window. The group address linked with this object is used for receiving the light-level control setting (in lux) by bus; this setting can be requested such at any time, also after making a change by ETS or IR remote control.				
6	Time factor for light stay-ON time	1…15	5,005 (8 bit)	CRWT
This object is only visible if the relevant "changeable by bus" parameter is set to "Yes" in the "Light output" parameter window. The group address linked with this object is used for receiving the stay-ON time (in minutes) by bus, this being the time for which lighting is to remain switched ON after the last person leaves the detection zone. Any value received outside the permissible range of 1 to 15 is rejected. This object can also be used at any time for requesting the time lighting is currently to stay ON for, also after making a change by ETS or IR remote control.				
7	Presence output	ON/OFF	1,001 (1 bit)	CRT
This object is only visible if the "presence output" parameter is set to "active" in the "General Settings" parameter window. The group address linked with this object is sent to the actuator by 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.				
8	Disable presence output	0…255	1,001 (1 bit)	CWT
This object is only visible when the "presence output" parameter is not set to "active" 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 value "1" or after receiving the value "0". When presence output is disabled, the detector sends no telegrams on presence status.				
9	Presence output disabling status	ON/OFF	1,001 (1 bit)	CRT
This object is only visible if the "presence output" parameter is set to "active" in the "General Settings" parameter window. Sent on the bus, the group address linked with this object indicates whether or not the presence output is disabled (presence output disabling status = ON). This can also be requested on the bus.				

Obj	Name of premises	Function	DP type	Flag
10	Close-up range output	ON/OFF	1,001 (1 bit)	CRT
This object is only visible if the "close-up range output" parameter is set to "active" in the "General Settings" parameter window. The group address linked with this object is sent to the actuator by bus, indicating whether persons have been detected on the close-up range ("close-up range output = ON") or not ("close-up range output = OFF"); status can be requested from the detector at any time.				
11	Disable close-up range output	ON/OFF	1,001 (1 bit)	CWT
This object is only visible if the "close-up range output" parameter is set to "active" in the "General Settings" parameter window and if the "close-up range output" parameter is not set to "No" in the "Close-up range" parameter window. The "disable close-up range output" parameter is also used for selecting whether disabling is to take place on receiving a value of "1" or on receiving a value of "0". When close-up range output is disabled, the detector sends no telegrams on close-up range status.				
12	Close-up range output disabling status	ON/OFF	1,001 (1 bit)	CRT
This object is only visible if the "presence output" parameter is set to "active" in the "General Settings" parameter window. Sent on the 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 on the bus.				
13	Photoelectric lighting controller output	ON/OFF	1,001 (1 bit)	CRT
This object is only visible if the "photoelectric lighting controller output" parameter is set to "active" in the "General Settings" parameter window. This object must be linked with the switching object of the actuator used for switching the photoelectric lighting controller ON and OFF. The group address linked with this object is used for sending the switching command by bus to the actuator, with it also being possible to request the switching status from the detector.				
14	Light level threshold	(2 to 300 lux)	9,004 (16 bit)	CRWT
This object is only visible if the "photoelectric lighting controller output" parameter is set to "active" in the "General Settings" parameter window and the "changeable by bus" parameter is set to "Yes" in the "Photoelectric lighting controller" parameter window. The group address linked with this object can be used on the bus for changing the photoelectric lighting controller threshold (in lux) at which twilight illumination is activated if the ambient light level is not sufficient and at which twilight illumination is switched OFF again when significantly exceeded. Any value received outside the permissible range of 2 to 300 lux is rejected. This object can also be used for requesting the current threshold value at any time, also after making a change by ETS.				
15	Disable photoelectric lighting controller	ON/OFF	1,001 (1 bit)	CRT
This object is only visible if the "photoelectric lighting controller output" parameter is set to "active" in the "General Settings" parameter window and if the "disable photoelectric lighting controller" parameter is set to "No" in the "Photoelectric lighting controller" parameter window. The "disable photoelectric lighting controller" parameter is also used for setting whether disabling is to take place after receiving a value of "1" or after receiving a value of "0". The detector sends no telegrams on light level status when the photoelectric lighting controller is disabled.				

Obj	Name of premises	Function	DP type	Flag
16	Photoelectric lighting controller disabling status	ON/OFF	1,001 (1 bit)	CRT
This object is only visible if the "photoelectric lighting controller output" parameter is set to "active" in the "General Settings" parameter window. Sent by buy or retrievable on it, the group address linked with this object shows whether the photoelectric lighting controller is disabled (photelectric lighting controller disabling status = ON) or whether it is not.				
17	Light level measured	(2 to 2000 lux)	9,004 (16 bit)	CRWT
This object is only visible if the "light level measured" parameter is set to "active" in the "General Settings" parameter window. The group address linked with this object is used for sending the light level measured by the detector by bus, with it also being possible to request light level from the detector.				

7. Parameters

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

7.1 "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
Presence output	**inactive;** active
active: the "presence output" parameter window is also available for setting the associated parameters as well as the associated objects. inactive: the detector provides no presence detection function. The "presence output" parameter window and associated objects are not available.	
Close-up range output	**inactive;** active
active: the "Close-up range output" parameter window is also available for setting the associated parameters as well as the associated objects. inactive: the detector provides no close-up range detection fucntion. The "Close-up range output" parameter window and associated objects are not available.	
Photoelectric lighting controller output	**inactive;** active
active: the "Photoelectric lighting controller output" parameter window is also available for setting the associated parameters as well as the associated objects. inactive: the detector provides no light-level detection function. The "Photometric lighting controller output" parameter window and associated objects are not available.	
Light level measured	**inactive;** active
active: object 17 "light level measured" is added. This is used for sending the light level that is measured (in lux) by the presence detector. inactive: The light level measured by the detector is not sent. Object 17 required is not available.	
LED	inactive; **active**
active: the LED is ON. inactive: the LED is OFF.	
Lighting test mode	**inactive;** active
active: To run the "Lighting test mode", the detector must have been parameterised by ETS and its objects linked with the objects of the buttons and actuators for lighting control. In this test mode, the red light-emitting diode integrated in the motion detector briefly flashes to indicate any movement detected. In addition, the lighting stay-ON time is set to 8 s for the duration of this test mode irrespective of the parameters selected for the presence detector. The motion detector is restarted after completing the test mode (when this parameter has been reset to "inactive"). The parameters changed at the beginning of the test mode are now reset to the values selected with ETS. inactive: the motion detector is in normal mode.	

7.2 "Light output" parameter window

This parameter window is always available.

Parameters	Settings
Daytime operation	**No**; Yes
No: The "light level setting" parameter is evaluated for evaluating the light level. Yes: light level evaluation is deactivated. The output only sends a switching command in relation to movement	
Light-level setting (in lux)	2…2000; **(200)**
This parameter is used for selecting the setting for evaluating light level.	
Changeable by bus	No; **Yes**
This parameter is used for selecting whether or not the setting for evaluating light level can be read and changed by bus. Yes: Communication object 5 is added so that the setting for evaluating light level can be selected by bus. This object not only provides the capability of changing the value on the bus. They can also be used for requesting the current value irrespective of whether it was entered by ETS, service remote control or bus. No: the setting for evaluating light level cannot be read or changed by bus.	
Stay-ON time (in minutes)	1…15; **(5)**
The stay-'ON' time starts when movement is detected. This has the purpose of preventing the lighting from switching OFF immediately if the detection zone is only vacated for a short time and switching it back ON again when a person returns to the detection zone. 1...15 minutes: lighting stay-ON time can be set to a fixed period of between 1 and 15 minutes.	
Changeable by bus	No; **Yes**
This parameter is used to select whether or not lighting-control stay-ON time can be read and changed by bus. Yes: communication object 6 is added so that the lighting-control stay-ON time can be selectable by bus. This object not only provides the capability of changing the value on the bus. They can also be used for requesting the current value irrespective of whether it was entered by ETS or bus. No: Stay-ON time cannot be read and set by bus.	
Soft start	**No**; Yes
This parameter is used to select whether light is switched ON/OFF abruptly or gradually. If this parameter is set to "Yes", communication object 1, "light dimming level output", must be connected with the relevant actuator. Communication object 0, "Switch light ON/OFF output", must only be connected with the actuator if this does not support the use of a dimming level to switch lighting ON.	
Disable light output	**No;** Disabling ON / enabling OFF; Disabling OFF / enabling ON
This parameter is used for selecting whether to add object 3, "disable light output", and which telegram to use for disabling and re-enabling the output. When the output is disabled, the detector does not automatically send any telegrams for operating or dimming lighting. Telegrams received by the sensor from the "switch light ON/OFF input" object are sent to the "switch light ON/OFF output" object. No: the "disable light output" object is not available. Disabling with ON / enabling with OFF: the output is disabled to the "disable light output" object by a telegram with value "1" and enabled by a telegram with value "0". Disabling with OFF / enabling with ON: the output is disabled to the "disable light output" object by a telegram with value "0" and enabled by a telegram with value "1".	
Behaviour on disabling	**no telegram;** ON; OFF
This parameter is only visible if the preceding "disable light output" parameter is not set to "No". This parameter is used to select whether to switch lighting ON or OFF completely before disabling the output or whether to leave lighting status unchanged. no telegram: no further action takes place before disabling the output. ON: lighting is switched ON before disabling the output. OFF: lighting is switched OFF before disabling the output.	
Action at light input	ON / OFF; 1 hour; 2 hours; 3 hours; **4 hours**
This parameter is used to select how to switch the output on receiving a switching command through the "Switch light ON/OFF input". ON/OFF: the output is permanently switched in the way defined by the switching commend being received. 1 hour: the output is switched for one hour in the way defined by the switching command. 2 hours: the output is switched for two hours in the way defined by the switching command. 3 hours: the output is switched for three hours in the way defined by the switching command. 4 hours: the output is switched for four hours in the way defined by the switching command.	
Basic illumination	**inactive;** active
If required, a motion detector installed can be set to provide basic illumination when ambient brightness falls below the light level setting so that it is never completely dark in detection zone. active: this additionally provides the "basic illumination dimming level" and "permanent basic illumination" parameters that can be used for setting basic illumination brightness and how long to switch it ON for. inactive: the basic illumination function is not available.	
Basic illumination dimming level (in per cent)	10…50; **(25)**
This parameter is only visible if the preceding "basic illumination" parameter is set to "active". This parameter is used for setting the percentage to switch lighting to when ambient brightness falls below the light level setting. The following parameter is used for setting how long basic illumination remains switched ON for.	
Basic illumination duration	half the night; **all night**
This parameter is only visible if the "basic illumination" parameter is set to "active". Basic illumination is switched OFF after expiry of the duration set here. The lengths of night last measured are averaged for defining the duration of a night. half the night: basic illumination is switched OFF between midnight and 1 a.m. all night: basic illumination is switched OFF after ambient brightness rises above the light level setting.	

7.3 "Presence output" parameter window

This parameter window is only provided when the "presence output" parameter is set to "active" in the "General Settings" parameter window.
It is used for setting operating behaviour on detecting presence.

Parameters	Settings
Switch-ON delay (in seconds)	0…10; **(5)**
Switch-ON delay can be set to between 0 and 10 seconds.	
Presence stay-ON time (in seconds)	1…255; **(10)**
Stay-ON time can be set to a period of between 1 and 255 seconds. It is restarted each time a movement is detected. Note: 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.	

Parameters	Settings
Disable presence output	**No;** Disabling ON / enabling OFF; Disabling OFF / enabling ON
This parameter is used for selecting whether to add object 8, "present output", and which telegram to use for disabling and re-enabling the output. If the output is disabled, no telegrams are sent for switching lighting ON and OFF. No: the "disable light output" object is not available. Disabling with OFF / enabling with ON: the output is disabled to the "disable presence output" object by a telegram with value "1" and enabled by a telegram with value "0". Disabling with OFF / enabling with ON: the output is disabled to the "disable presence output" object by a telegram with value "0" and enabled by a telegram with value "1".	
Behaviour on disabling	**no telegram;** ON; OFF
This parameter is only visible if the preceding "disable presence output" parameter is not set to "No". This parameter is used to select whether to switch lighting ON or OFF completely before disabling the output or whether to leave lighting status unchanged. no telegram: no further action takes place before disabling the output. ON: output is switched ON before disabling the output. OFF: output is switched OFF before disabling the output.	

7.4 "Close-up range output" parameter window

Only provided when "close-up range output" is active, except when a detector is operating as a "slave". It is used for setting operating behaviour for controlling lighting.

Parameters	Settings
Close-up range stay-ON time (in seconds)	1…255; **(10)**
Stay-ON time can be set to a period of between 1 and 255 seconds. It is restarted each time a movement is detected. Note: a "close-up range 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.	
Disable presence output	**No;** Disabling ON / enabling OFF; Disabling OFF / enabling ON
This parameter is used for selecting whether to add object 11, "close-up range output", and which telegram to use for disabling and re-enabling the output. If the output is disabled, no telegrams are sent for switching lighting ON and OFF. No: the "disable light output" object is not available. Disabling with OFF / enabling with ON: the output is disabled to the "close-up range output" object by a telegram with value "1" and enabled by a telegram with value "0". Disabling with OFF / enabling with ON: the output is disabled to the "close-up range output" object by a telegram with value "0" and enabled by a telegram with value "1".	
Behaviour on disabling	**no telegram;** ON; OFF
This parameter is only visible if the preceding "close-up range output" parameter is not set to "No". This parameter is used to select whether to switch lighting ON or OFF completely before disabling the output or whether to leave lighting status unchanged. no telegram: no further action takes place before disabling the output. ON: output is switched ON before disabling the output. OFF: output is switched OFF before disabling the output.	

7.5 "Photoelectric lighting controller" parameter window

Only provided when "photoelectric lighting controller output" is active, except when a detector is operating as a "slave". It is used for setting the photoelectric lighting controller's operating behaviour.

Parameters	Settings
Light level threshold (in lux)	2…300; **(50)**
Changeable by bus	No; **Yes**
This parameter is used for selecting whether or not the light level threshold setting can be read and changed by bus. Yes: Communication object 14 is added so that the light level threshold setting can be selected by bus. This object not only provides the capability of changing the value on the bus. They can also be used for requesting the current value irrespective of whether it was entered by ETS or bus. No: the light level threshold setting cannot be read or changed by bus.	
Disable presence output	**No;** Disabling ON / enabling OFF; Disabling OFF / enabling ON
This parameter is used for selecting whether to add object 15, "disable photoelectric lighting controller", and which telegram to use for disabling and re-enabling the output. If the output is disabled, no telegrams are sent for switching lighting ON and OFF. No: The "disable light output" object is not available. Disabling with ON / enabling with OFF: the output is disabled to the "disable photoelectric lighting controller" object by a telegram with value "1" and enabled by a telegram with value "0". Disabling with ON / enabling with OFF: the output is disabled to the "disable photoelectric lighting controller" object by a telegram with value "0" and enabled by a telegram with value "1".	
Behaviour on disabling	**no telegram;** ON; OFF
This parameter is only visible if the preceding "disable photoelectric lighting controller" parameter is not set to "No". This parameter is used to select whether to switch lighting ON or OFF completely before disabling the photoelectric lighting controller output or whether to leave lighting status unchanged. no telegram: no further action takes place before disabling the output. ON: output is switched ON before disabling the output. OFF: output is switched OFF before disabling the output.	

7.6 "Light Level Measured" parameter window

This parameter window is only provided 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.

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 for the light level measured 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.	