



The Presence detector standard is ideal for monitoring presence (operating mode: presence detector function) or for detecting movements (operating mode: ceiling controller (movement detector)) indoors. Two output channels are available in both operating modes and are parameterable separately from each other. The unit is fitted with an alarm function which is triggered when the unit is disconnected from the bus coupling unit.

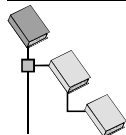
Setting the "ceiling controller" and "presence detector" operating modes takes place with the parametering of the units using the ETS software. Subsequent switching between the operating modes is not possible; re-programming is necessary in order to change the operating mode.

The Presence detector standard operates with a Passive Infrared Sensor (PIR) and reacts to heat movement caused by people, animals or objects. It is designed for use as an individual unit and is only mounted on the ceiling. It monitors an area below it.

The use of several Standard presence detectors in one room with the aim of extending the area to be monitored is not possible, because both units would interfere with each other.

A presence detector is used to switch light ON and OFF in accordance with requirements. The light is switched on when a movement is detected if at the same time the brightness level falls below a value which is to be set (known as the value of dawn light). Switching off takes place when it is sufficiently bright without additional artificial light or when nobody is present. This means that the "presence" of a person is recorded depending on a pre-set level of brightness.

Database structure:



Gebr. Berker
 Physical sensors
 Presence detector standard

Application overview:

Presence standard A00E01



Technical data

| | |
|---------------------------------------|--|
| Type of protection: | IP 20 |
| Test mark: | EIB |
| Ambient temperature: | -5°C to +45°C |
| Storage temperature: | -25°C to +75°C (storage at over +45°C shortens operating life) |
| Fitting position: | any (excluding ceiling mounting!) |
| Minimum clearances: | none |
| Fitting method: | Clip onto bus coupling unit flush-mounted |
| Supply to instabus EIB | |
| Voltage: | 24 V DC (+6 V / -4 V) |
| Wattage: | Typically 150 mW |
| Connection: | via instabus connection and branch terminal |
| External supply | --- |
| Dimensions: | |
| ø: | 140 mm |
| Height: | 40 mm |
| Response after loss of voltage | |
| Only bus voltage: | No reaction! (In the case of loss of bus voltage, active movement detection or currently active delays are cancelled and not carried out when the bus voltage is restored!) |
| Only mains voltage: | --- |
| Bus and mains voltage: | --- |

Response following voltage restoration

Only bus voltage: dependent on software
(immunity time during detection of heat movement: approx. 40 s)

Only mains voltage: ---

Bus and mains voltage: ---

Input:

Detection angle: 360°

Fitting height for nominal range: approx. 2.5 m

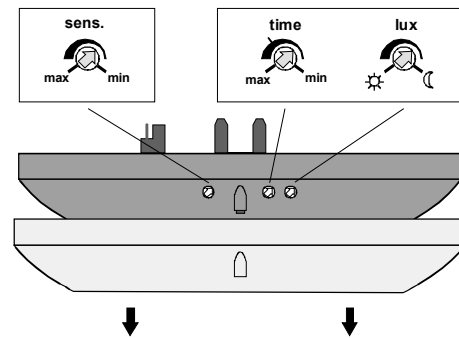
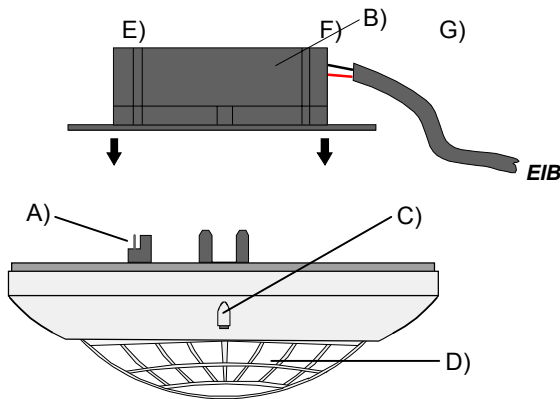
Nominal range at desk height: Ø approx. 5 m

Nominal range on floor: Ø approx. 8 m (monitor operation: see *Detection response*)

Number of lenses / detection levels: 80 / 6

Connection diagram and operating elements

Connection of the presence detector to the instabus is via the user interface (AST) to a bus coupling unit flush-mounted.



- A) User interface (AST): 2x5 pole connector
- B) Bus coupling unit flush-mounted
- C) Brightness sensor
- D) System of lenses for detecting movements

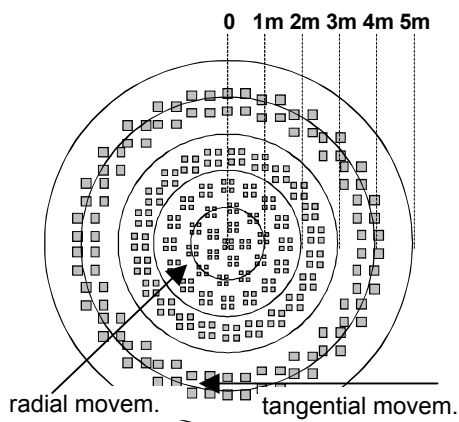
- E) Potentiometer *sens.*:
For continuous reduction of the range between 100% and 20%
- F) Potentiometer *time*:
Setting the addition transmission delay by ±50%
- G) Potentiometer *lux*:
Fine adjustment of the value of twilight (dawn light) pre-set by the software

Instructions on use

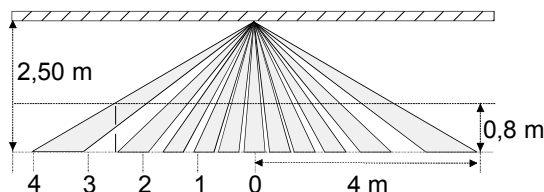
Setting the value of twilight (dawn light)

The brightness values determined by the presence detector depend on several factors. For example, the degree of light reflection from the surface directly underneath the presence detector plays an important role. Bright surfaces such as white paper on a desk reflect far more light than a dark carpet. This means that the presence detector setting needs to be changed if the bright table underneath the detector is moved to another position in the room and a there is a dark carpet underneath the presence detector.

Detection range:



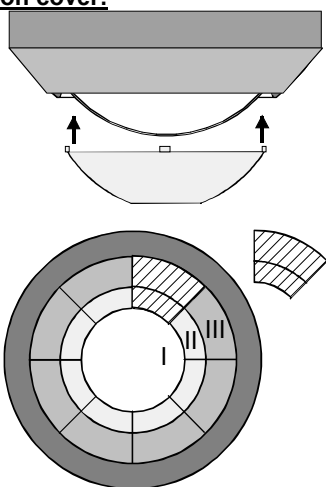
The Presence detector standard has a detection area of 360°. The PIR sensor system works with 6 detection levels and 80 lenses. The range is approx. 5m diameter at table height (approx. 80cm). The detection range at floor level is approx. 8m. This assumes fitting to the ceiling at a fitting height of 2.5m.



Detection reaction:

The detection reaction of the unit is optimised for presence detector use (e.g. an office environment) i.e. for the tangential detection of movements. This means that in the outer area of the detection “zone” in particular (4 metres), the detection signals which record radial movement are much weaker than in the case of tangential movements. In the case of use as a ceiling-mounted controller (movement detector, which is often a radial movement), note that signals which can be evaluated are in part only generated when the movement is from the outer to the next detection zone (approx. 2-3 m). This results in a reliable detection range as a ceiling-mounted movement detector of approx. 5 m diameter on the floor.

Push-on cover:



By using the push-on cover (included), undesired detection ranges or sources of interference can be excluded by limiting the detection range. To fit the cover, push it onto the lens system.

Cutting-out of the cover must only be carried out at the pre-marked lines and using scissors. The cutting-out process changes the diameter of the detection range on the floor (given a nominal fitting height of 2.5 m) as follows:

- Complete cover, sector one cut out:
Ø approx. 2.20m
- Sector II cut out:
Ø approx. 4.00m
- Sectors II & III cut out:
Ø approx. 6.00m
- Fitting without cover:
Ø approx. 8.00m

Fitting instructions:

- Before initial operation, remove the push-on cover (fitted to lens when delivered).
- Do not fit the presence detector directly next to a source of heat, e.g. a lamp. As it cools down, the bulb might be recognised as a change in heat by the PIR sensor unit, which would result in a new detection of movement.
- If necessary, restrict the detection range by using the push-on cover (supplied).
- **Choose the most suitable site for fitting.** Do not fit close to ventilators, radiators or ventilation shafts. Movements of air (e.g. caused by open windows) may be detected and so trigger a new switch process.
- Fit the Presence detector standard in a place where there are no vibrations, as sensor movements can also trigger switch processes.
- The detection range should not be restricted by furniture, columns, etc.
- The brightness sensor should be fitted on the side away from the window in order to avoid the undesirable effects of scattered light.
- The fewer the number of expected movements in the monitored area, the longer the period of time which should be selected for the transmission delay. This can prevent premature switching OFF of the lighting.

| | | | | |
|---|----------------------------|---------------------------------|---|-----------------------------|
| Application: | | Presence standard A00E01 | | |
| Mask version and higher: | 1.2 | | | |
| Number of addresses (max): | 30 | Dynamic table administration | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> |
| No. of assignments (max): | 30 | Maximum table length | 60 | |
| Communication objects: | 8 | | | |
| Function overview | | | | |
| Function: No function ** | | | | |
| No additional output objects! | | | | |
| Function: Switching ** | | | | |
| Object | Function | Name | Type | Flag |
| <input type="checkbox"/> 0 | Switching | Output 1 | 1 bit | C, W, T, (R) * |
| <input type="checkbox"/> 1 | Switching | Output 2 | 1 bit | C, W, T, (R) * |
| Function: Dimming value transmitter ** | | | | |
| Object | Function | Name | Type | Flag |
| <input type="checkbox"/> 0 | Value | Output 1 | 1 byte | C, W, T, (R) * |
| <input type="checkbox"/> 1 | Value | Output 2 | 1 byte | C, W, T, (R) * |
| Function: Light scene extension set ** | | | | |
| Object | Function | Name | Type | Flag |
| <input type="checkbox"/> 0 | Light scene extension unit | Output 1 | 1 byte | C, W, T, (R) * |
| <input type="checkbox"/> 1 | Light scene extension unit | Output 2 | 1 byte | C, W, T, (R) * |
| Function: Teach-In | | | | |
| Object | Function | Name | Type | Flag |
| <input type="checkbox"/> 2 | Teach-In | Output 1 | 1 bit | C, W, (R) * |
| <input type="checkbox"/> 3 | Teach-In | Output 2 | 1 bit | C, W, (R) * |
| Function: Blocking | | | | |
| Object | Function | Name | Type | Flag |
| <input type="checkbox"/> 4 | Blocking | Output 1 | 1 bit | C, W, (R) * |
| <input type="checkbox"/> 5 | Blocking | Output 2 | 1 bit | C, W, (R) * |
| Function: Trigger object | | | | |
| Object | Function | Name | Type | Flag |
| <input type="checkbox"/> 6 | Trigger object | Output 1 and 2 | 1 bit | C, W, (R) * |
| Function: Alarm (with data format 1 bit) | | | | |
| Object | Function | Name | Type | Flag |
| <input checked="" type="checkbox"/> 7 | Switching | Alarm | 1 bit | C, W, T, (R) * |
| Function: Alarm (with data format 1 byte) | | | | |
| Object | Function | Name | Type | Flag |
| <input checked="" type="checkbox"/> 7 | Value | Alarm | 1 byte | C, W, T, (R) * |
| * In the case of the objects marked (R), the current object status can be read out (set R-flag!). | | | | |
| ** The "No function", "Switching", "Value transmitter" and "Light scene extension unit" functions can be selected per output. The names of the communication objects and the object table (dynamic object structure) are changed accordingly. | | | | |

| | | | |
|---------------------------------------|----------------------------|---|--|
| Object description | | | |
| Objects: | | | |
| <input type="checkbox"/> 0-1 | Switching | 1 bit object for transmitting switch telegrams (ON, OFF) | |
| <input type="checkbox"/> 0-1 | Value transmitter | 1 byte object for transmitting of, for example, value telegrams (0 - 255) | |
| <input type="checkbox"/> 0-1 | Light scene extension unit | 1 byte object for calling up or storing light scenes (1 - 64) | |
| <input type="checkbox"/> 2-3 | Teach-In | 1 bit object for setting a value of twilight independently of the parameterisation and the setting at the value of twilight potentiometer | |
| <input type="checkbox"/> 4-5 | Blocking | 1 bit object for blocking the outputs | |
| <input type="checkbox"/> 6 | Trigger object | 1 bit object for switching on the presence detector independently of detection | |
| <input checked="" type="checkbox"/> 7 | Alarm (switching) | 1 bit for alarm message (presence detector removed) | |
| <input checked="" type="checkbox"/> 7 | Alarm (value transm.) | 1 byte object for alarm message (presence detector removed) | |

Scope of functions

- Free assignment of the switching, value transmitter and light scene extension unit functions to the 2 outputs.
- Presence detector or ceiling-mounted controller (movement detector) operating modes are parameterable. It is not possible to switch the operating mode during operation., e.g. by means of objects!
- The potentiometer for value of twilight and additional transmission delay can be parametered to different outputs.
- Trigger object for switching ON the presence detector adjustable independently of a detection.
- Locking time adjustable after telegram release.
- Value of twilight and Teach-In function parameterable for each output. The polarities can be pre-set for the Teach-In objects. If the value of twilight potentiometer affects both outputs, the value of twilight only needs to be set at output 1.
- Cyclical transmission possible during detection (basis and factor).
- Telegram release parameterable with retriggering.
- Telegram adjustable at beginning and end of a detection.
- Telegram adjustable at beginning and end in blocking operation. The polarities of the blocking objects are parameterable independently of each other.
- Additional transmission delay (basis and factor) adjustable. The total delay for sending a telegram at the end of a detection is the sum of the addition of the standard delay (10 sec) and the additional transmission delay.
- Correction of the disconnection hysteresis adjustable. After twice the value of the set value of twilight (switch-OFF brightness) has been exceeded, then even if a person is present, the parametered telegram is transmitted at the end of the detection after approx. 10 minutes.
- The switch-OFF brightness can be adjusted via the correction factor.
- Reaction on restoration of bus voltage can be parametered separately for each output.
- Disassembly alarm possible after the unit has been removed from the bus coupling unit flush-mounted (1bit / 1byte).

Description of functions

Pull-off detection / disassembly alarm

If the application module (presence detector) is pulled off the bus coupling unit, an alarm can be triggered in the form of an ON or OFF telegram or of a value telegram via the alarm object. Alternatively, this triggering of a telegram can be suppressed by the ETS parameter setting "Alarm function: disabled".

The time following the removal of the application module (presence detector) until the telegram is triggered is adjustable via the ETS parameters time factor and time basis. In order to avoid bounce effects, the set time period should not be less than 1 second.

Data format: 1 bit

a) Automatic resetting of alarm object = YES

When the application module (presence detector) is first connected following programming via the ETS, the object value of the alarm object is loaded with the inverted alarm value (no alarm active) and the alarm function is released. However, as long as no application module (presence detector) has yet been connected after programming, this status can be recognized if the object value is queried because in this case the alarm object value is loaded with the alarm value (alarm active).

When the application module is pulled off, after the transmission delay has expired an alarm telegram with the parametered alarm value (alarm active) is transmitted. If the bus voltage was lost, no new alarm telegram is transmitted after it has been restored. After the application module has been replaced, an inverted alarm telegram (no alarm active) is transmitted and the unit is activated (unit is operative).

b) Automatic resetting of alarm object = NO

When the application module (presence detector) is first connected following programming via the ETS, the object value of the alarm object is loaded with the inverted alarm value (no alarm active) and the alarm function is released. However, as long as no application module has yet been connected after programming, this status can be recognized if the object value is queried because in this case the alarm object value is loaded with the alarm value (alarm active).

When the application module (presence detector) is pulled off, after the transmission delay has expired an alarm telegram with the parametered alarm value (alarm active) is transmitted. If the bus voltage was lost, no new alarm telegram is transmitted after it has been restored. After the application module has been replaced,

the unit is muted (unit is not operative). The unit is activated again when the inverted alarm value (release telegram).

The application module must be in position when the release telegram is received. If the application module is not in position, no release takes place and the object value remains set to the alarm value (alarm value). (The release telegram with the inverted alarm value is ignored!).

Data format: 1 byte

a) Automatic resetting of alarm object = YES

When the application value is first set following programming via the ETS, the object value of the alarm object is loaded with the value = 0 (no alarm active) and the alarm function is released. However, as long as no application module (presence detector) has yet been connected after programming, this status can be recognized if the object value is queried because in this case the alarm object value is loaded with the alarm value (1 ... 255 = alarm active).

When the application module is pulled off, after the transmission delay has expired an alarm telegram with the parametered alarm value (1 ... 255 = alarm active) is transmitted.

If the bus voltage was lost, no new alarm telegram is transmitted after it has been restored.

After the application module (presence detector) has been reconnected, a telegram is sent via the alarm object with the value = 0 (no alarm active) and the unit is activated (unit is operative).

b) Automatic resetting of the sabotage = no

When the application value (presence detector) is first set following programming via the ETS, the object value of the alarm object is loaded with the value = 0 (no alarm active) and the alarm function is released. However, as long as no application module (presence detector) has yet been connected after programming, this status can be recognized if the object value is queried because in this case the alarm object value is loaded with the alarm value (1 ... 255 = alarm active).

When the application module (presence detector) is pulled off, after the transmission delay has expired an alarm telegram with the parametered alarm value (1 ... 255 = alarm active) is transmitted.

If the bus voltage was lost, no new alarm telegram is transmitted after it has been restored.

After the application module (presence detector) has been reconnected, the unit is muted (unit not operative). The unit is only released after receipt of an alarm telegram with the value = 0 (release telegram).

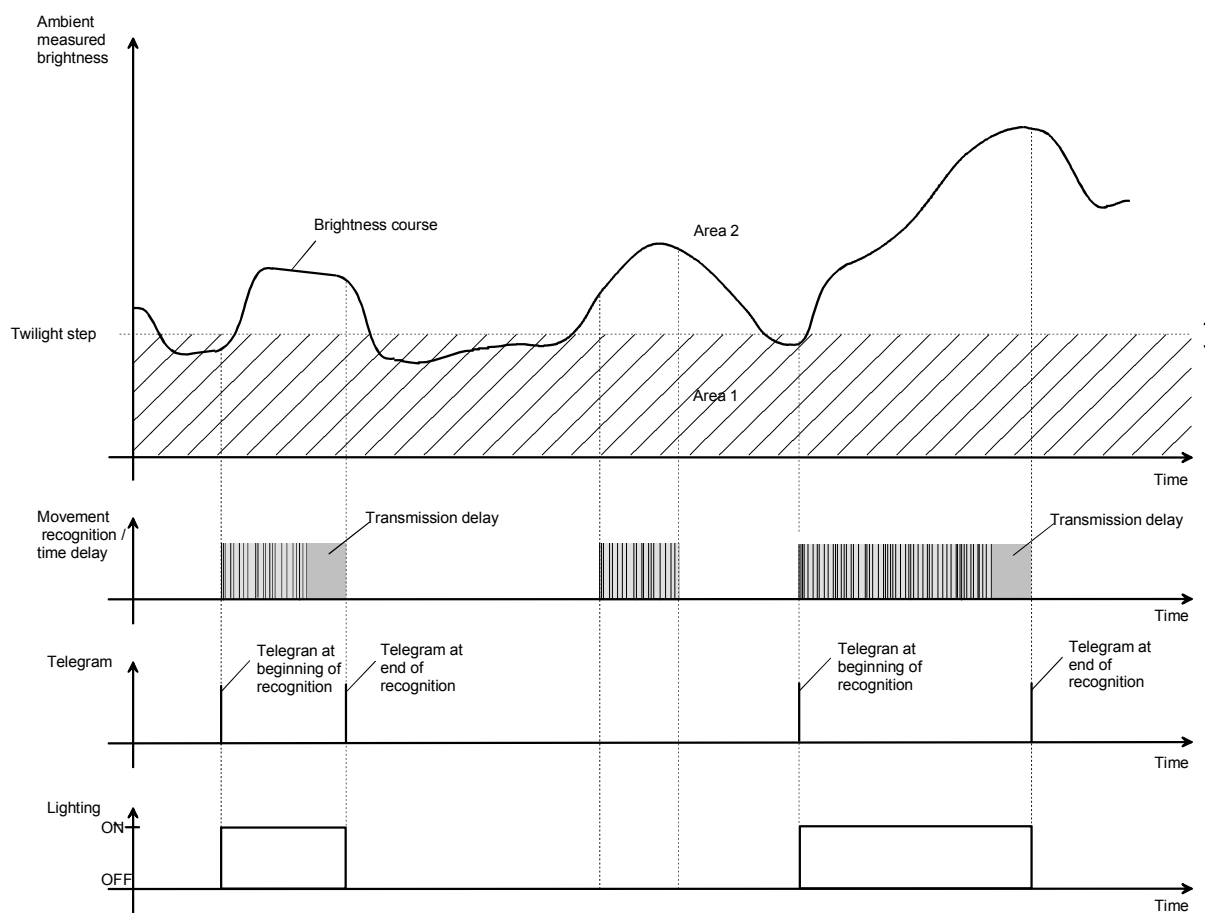
When a release telegram is received, the application module (presence detector) must be connected. If the application module is not connected, no replace takes place and the object value remains set to the alarm value (1 ... 255 = alarm active).

(The release telegram with the value = 0 is ignored!).

Operating mode: Ceiling controller (movement detector)

In operating mode “Ceiling controller”, the unit detects movements and transmits the telegram parametered at the beginning of a detection if the measured brightness value is less than the set value of twilight. If the telegram was sent at the beginning of a detection, the unit operates independently of the ambient brightness. If no additional movements are detected, after the expiry of the set total transmission delay (standard transmission delay [10 s] + additional transmission delay) the unit sends the parametered telegram at the end of the detection.

Independently of a detection of movement, the light can also be switched ON or OFF if the ceiling controller (movement detector) is blocked, if the bus voltage is restored, or via the trigger object (cf. description of the trigger function).



The brightness limit between range 1 and range 2 is determined by the value of twilight which is parameterable. If the measured ambient brightness falls below this value and a movement is detected, the ceiling controller (movement detector) switches the artificial light on. Range 2 characterizes the level of brightness in the room at which the room is sufficiently well illuminated and it is not necessary to switch on artificial light. If the level of ambient brightness lies within this range and the unit detects a movement, no additional artificial light will be switched on.

The parameter “Sensitivity” determines how powerful the movement impulses to be evaluated must be for a movement to be recognized. In this way it is possible to reduce the sensitivity of the PIR sensor system, for example in order to prevent switching errors.

If the value of twilight is parametered to “Independent of brightness”, the artificial light is switched on when a movement is detected without monitoring the ambient brightness.

Operating mode: Presence detector

In "Presence detector" operating mode, the unit detects the presence of a person and transmits the telegram parametered at the start of a detection if the measured brightness value is less than set value of twilight.

When the presence of a person is no longer detected and the set total transmission (standard transmission delay [10 s] + additional transmission delay) or the set value of twilight is exceeded for at least 10 minutes by, for example, double the time (dependent on the software), the presence detector transmits the parametered telegram at the end of the detection.

The differences in functionality in comparison with the "Ceiling controller (movement detector)" operating mode lie in the processing:

- of the movement signal:
In contrast to the controller function, only several movement impulses which take place one after the other result in the detection of a presence.
- of the brightness signal:
The brightness range which is to be evaluated as a value of twilight and is adjustable is greater than that of the "ceiling controller (movement detector)" operating mode.

Only after twice the value of the set value of twilight (switch-off level of brightness) has been exceeded is the parametered telegram sent at the end of the detection after 10 minutes, even when a person is present.

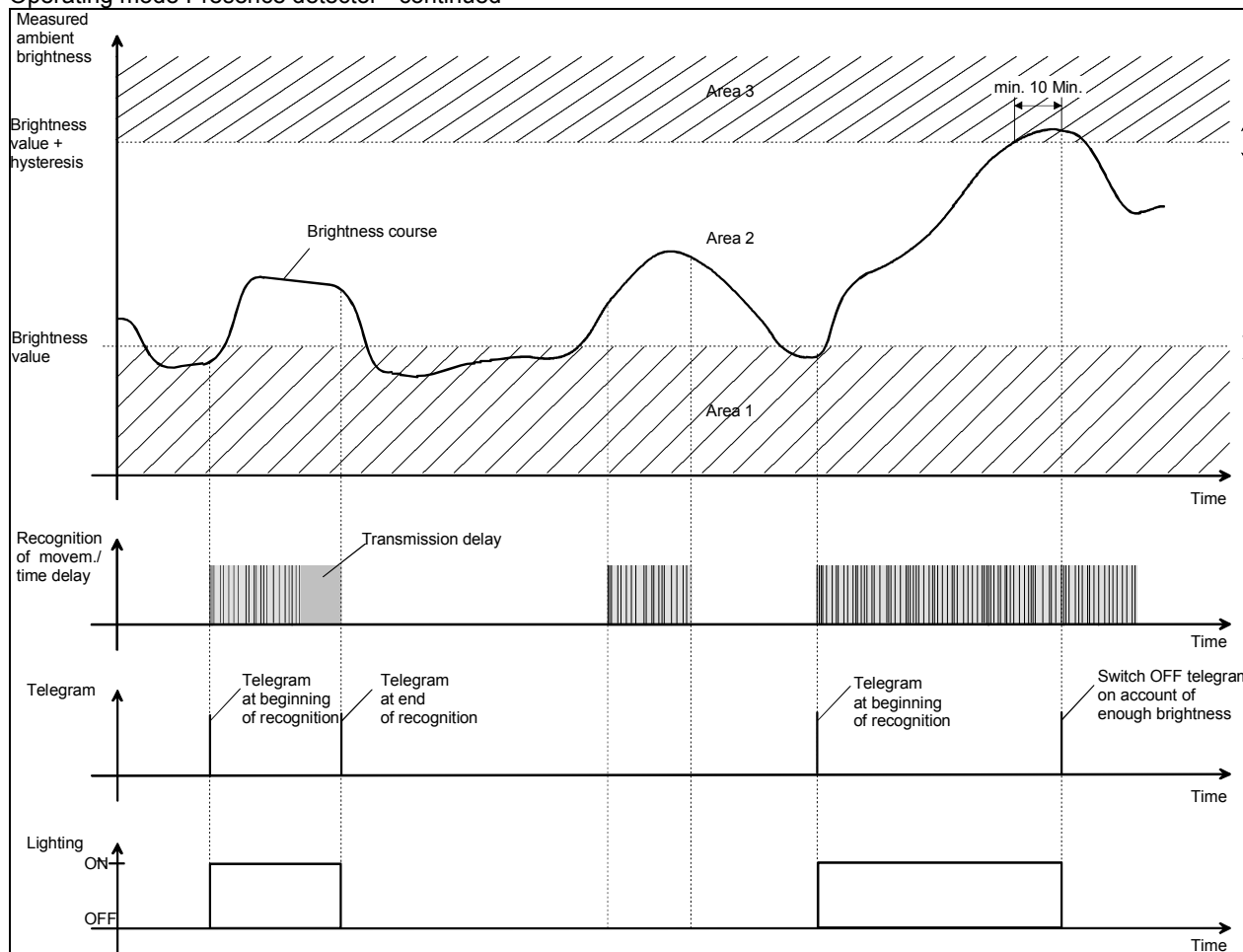
This switch-off level of brightness can be changed via a correction factor in the parameters.

The light is switched on when necessary, i.e. after the present of a person has been detected and a brightness value less than the set value of twilight has been measured.

The light is switched off when it is no longer needed, i.e. nobody is present or the level of brightness is sufficient without any additional brightness.

Independently of the detection of a movement, the light can also be switched ON or OFF if the presence detector is blocked, if the bus voltage is restored via the trigger object (cf. description of the trigger function).

Operating mode Presence detector - continued-



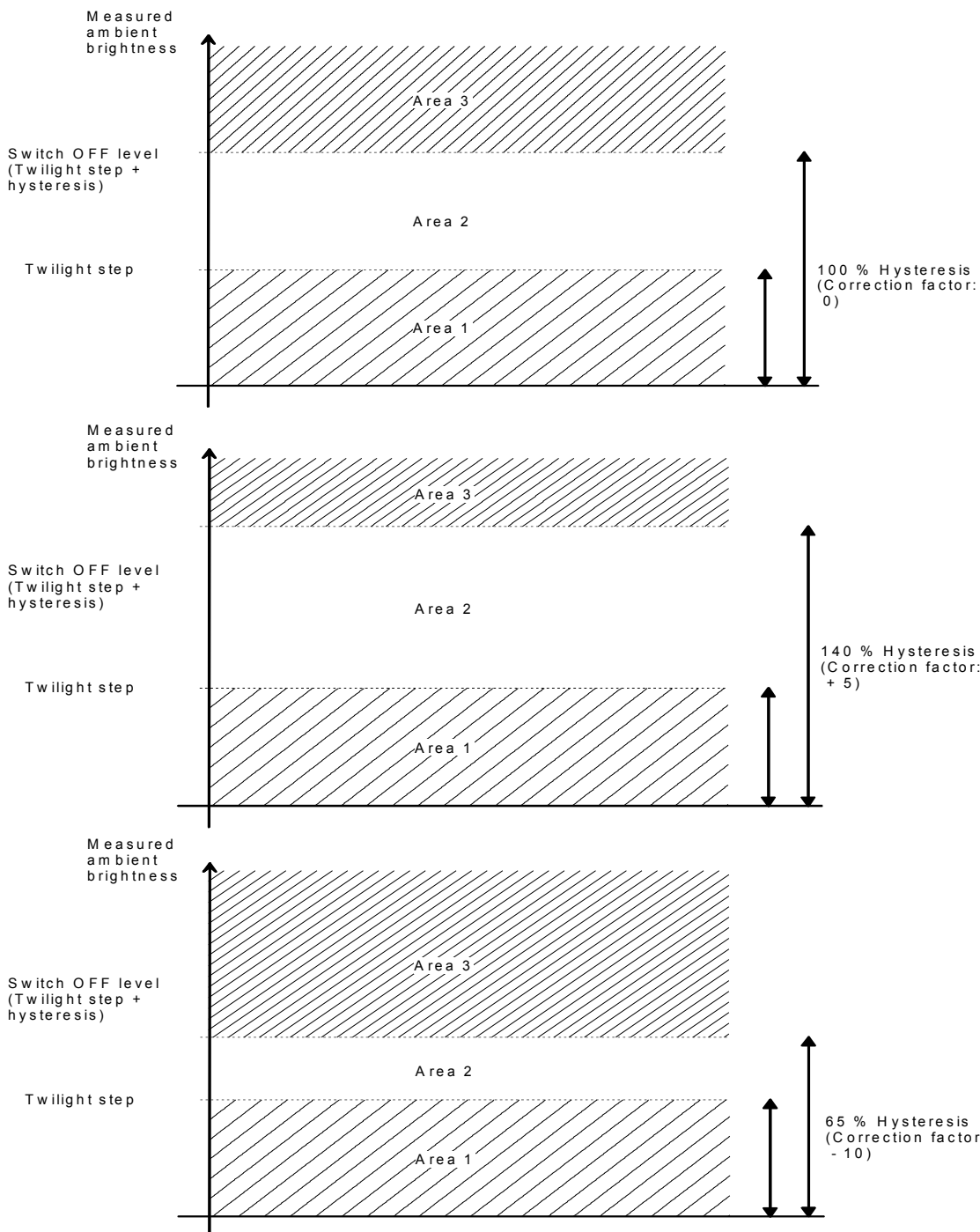
The brightness limit between range 1 and range 2 is determined by the value of twilight which is parameterable. If the measured ambient brightness falls below this value and a movement is detected, the ceiling controller (movement detector) switches the artificial light on. Range 2 characterizes the level of brightness in the room to which the presence detector is to adjust. If the ambient brightness is within this range and the unit detects a new movement, no additional artificial light is switched on. The limit between ranges 2 and 3 is determined by the value of twilight plus the hysteresis (cf. description of "Hysteresis and correction factor" below). If the measured level of ambient brightness exceeds this brightness threshold on a permanent basis, the artificial light is switched off at the earliest after 10 minutes. The period of time until the switch-off moment may last longer than 10 minutes if the level of ambient brightness does not exceed the threshold between ranges 2 and 3 on a permanent basis, i.e. if the brightness is sometimes less and sometimes higher. This switch-off period of time does not react to brief reflections and prevents incorrect switching of the lighting.

If the value of twilight is parametered to "independent of brightness", then when the presence of a person is recognized the artificial light is switched on without the level of ambient brightness being monitored.

Hysteresis and correction factor:

The limit between ranges 2 and 3 (switch-off threshold) is parameterable and can be adapted to the ambient situation. If it is found that the artificial light switches on too early (too late), the switch-off threshold can be corrected upwards (downwards). This shift in the switch-off threshold is described by the correction factor (Correction of the switch-off hysteresis”).

In the standard situation, the hysteresis is double (100%) the parameterised value of twilight. If the threshold is to be adjusted downwards, a negative factor must be selected. If the threshold is to be adjusted upwards, a positive factor must be parametered. As an additional standard value, the hysteresis is stated as a percentage value of the parameterised value of twilight. The following illustration shows various examples of parameterisation.



Teach-In function

The Teach-In function makes it possible to adapt the value of twilight (switch-on threshold) directly, object-controlled, to the ambient conditions without the need for parameterisation. A separate Teach-in object is available for each output.

Three seconds after an object up-date to the Teach-in object, the unit takes the ambient brightness which is currently measured as the new value of twilight. The purpose of the 3 second delay is to ensure that at the same time as the telegram is sent to trigger the Teach-in function, actuators can be triggered in order to set a new lighting situation before the new value of twilight is stored.

In order to ensure that the brightness value is not affected by reactions from the presence detector within the 3 seconds delay (e.g. on, off, value telegrams, cyclical transmissions, muting telegrams etc), the presence and movement evaluation or the brightness regulation are muted until the new value of twilight has been stored.

The polarity of a Teach-in telegram can be parametered. Depending on the parameterisation, by means of the opposed object value (Teach-in not active) it is possible to switch back again to the original setting of the value of twilight. This results in the loss of the value of twilight learned via the Teach-in function. However, if the Teach-in operating mode is parametered to "1" and "0" active, then when the unit is operating it is not possible to switch back to the value of twilight which was originally programmed using the ETS! In this case, only re-programming can restore the original value.

Several object-updates received consecutively at the Teach-in object (Teach-in active) always result in a new storage action for the value of twilight.

The value of twilight learned via the Teach-in function is stored permanently in the bus coupling unit's EEPROM until a new Teach-in telegram is received, which means that a loss of bus voltage does not result in the loss of the learned value.

A value of twilight learned via the Teach-in function cannot be altered via the value of twilight potentiometer. The blocking function does not have any effect on the Teach-in function.

Trigger function

In both operating modes, and via the trigger object, the unit can transmit telegrams from both output objects even though no movement has been detected. The arrival of a telegram via the trigger object with value = 1 is processed in the same way as a detected movement. The receipt of a telegram via the trigger object with value = 0 does not have any effect (= no reaction).

a) "Independent of brightness" function:

The receipt of a trigger telegram (value = 1) is evaluated in the same way as a detected movement.

The "Telegram a beginning of detection" is transmitted according to the parameterisation.

If the unit is not in an active movement detection mode when the trigger telegram (value = 1) is received, then a telegram (Telegram at beginning of detection) is sent via the output channels, if so parameterised.

If the unit is already in an active detection mode when the trigger telegram is received, then telegrams are only transmitted via the output channels during the additional transmission delay if the parameterisation is "Transmit telegram in case of retriggering = YES". The transmission delay is retriggered.

b) "Dependent on brightness" function:

This setting is only processed correctly when the value of twilight is also parametered to "Dependent on brightness". Otherwise processing takes place in the same way as for "Independent of brightness parameterisation".

If the unit is not set to active detection of movement when the trigger telegram (value = 1) is received, then depending on the current brightness (parameter setting of the channels) a telegram (Telegram at beginning of detection) is sent, via the output channels, if parametered accordingly.

If the unit is already in active detection mode when the trigger telegram is received, then telegrams are only transmitted during the additional transmission delay via the output channels if parameterisation is "Telegram triggering on retriggering = YES". The transmission delay is retriggered.

If the current level of brightness is already above the switch-off threshold (presence operation) and the switch-off delay (10 mins) is active, then this period of time is not influenced by the arrival of the trigger telegram, i.e. when the period of time has elapsed, the light is switched off, for example.

Following restoration of the bus voltage, no triggering is possible during the PIR immunity period of approx. 40 secs and during a locking period which is currently taking place.

A muted output channel cannot be activated by the trigger object!

The trigger function is used to give the user the opportunity to switch the light on even though he is not within the unit's detection range. It cannot be used as an extension input, for example to combine one or more presence or controller units!

Blocking function

By using separate lock objects for each output channel, a telegram to the relevant blocking object can prevent one or two channels respectively reacting to a recorded movement. This also applies to the trigger object. A blocked output channel cannot be activated by a recorded movement or by the trigger object!


At the beginning and end of the blocking, an individual telegram can be sent separately for each output with the function which is parametered for this output.

After the de-blocking of the appropriate output(s), normal operation is resumed following the "Telegram at end of blocking".

During the blocking of an output in presence detector operation, an active switch-off time (10 min.) will not be processed given an ambient brightness which exceeds the switch-off threshold. The switch-off time is restored after the start of the blocking. After the blocking has been cancelled, the switch-off time is restarted if the ambient brightness continues to exceed the switch-off threshold. This means that the lighting is only switched off at the earliest 10 minutes after the blocking has been cancelled.


The Teach-in function is also operative during the blocking of a channel!

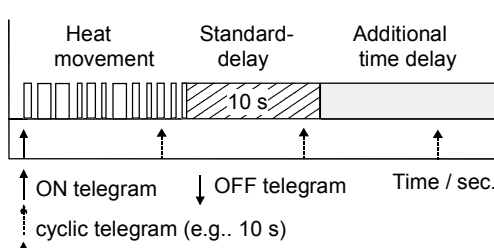
Parameters of parameter card: "General"

| Parameters | | |
|---|--|--|
| Description | Values | Comment |
|  General | | |
| Operating mode | Presence detector | This parameter specifies the operating mode. |
| Function output 1 | Ceiling controller No function Switching Value transmitter 1byte Light scene extension unit | This parameter specifies the function of output 1. |
| Function output 2 (FA) | No function Switching Value transmitter 1byte Light scene extension unit | This parameter specifies the function of output 2. |
| Potentiometer of twilight step has an effect on | No output Output 1 Output 2 * Output 1 and 2 * | This parameter specifies the assignment of the twilight potentiometer to the outputs. If the potentiometer acts on both outputs, the value of twilight only needs to be set at output 1. *: only with "Function of output 2 = "Switching", "Value transmitter" or "Light scene extension unit"! |
| Potentiometer for additional transmission delay has an effect on | No output Output 1 Output 2 * Output 1 and 2 * | This parameter specifies the assignment of the "additional transmission delay" parameter to the outputs. If the potentiometer acts on both outputs, the additional transmission delay only needs to be set at output 1. The total delay for sending a telegram at the end of a detection results from the addition of the standard delay (10 sec) and the additional transmission delay. *: only with "Function of output 2 = "Switching", "Value transmitter" or "Light scene extension unit"! |
| Activate trigger object? | YES NO | This parameter can release the trigger function. |
| Mode of operation of trigger objects | Independent of brightness Dependent on brightness | The user can specify whether the reaction to the trigger object is to take place independent of the brightness or dependent on the brightness. |
| Lock time after telegram transmission, base | 8 msec 130 msec 2.1 sec 33 sec | When the complete delay has expired, a lock time can be activated which prevents the consumers being switched on again as a result of cooling. The presence detector only records movements again when the locking time has expired. |
| Lock time after telegram transmission, factor | 0...255; 23 | Lock time = base x factor Definition of the time factor for the lock time. Lock time = base x factor Pre-setting: 130 msec x 23 = 2.99 sec |


| | | |
|--------------------|-------------|---|
| Sensitiveness (FA) | High | The sensitivity of the PIR evaluation in ceiling-mounted movement detector mode can be adjusted |
| | Medium | The unit also reacts to short, weak movement signals. |
| | Low | The unit is less responsive to movement signals. |
| | | The unit only reacts to long, powerful movement signals. Only in "Ceiling controller mode"! |

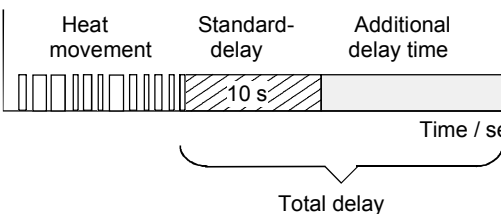
Parameters of parameter card: „Output 1: Evaluation of recognition“

| Parameters | | |
|---|--|--|
| Description | Values | Comment |
|  Output 1: Evaluation of recognition | | |
| Transmit telegram at beginning of recognition ? | YES NO | This parameter specifies whether a telegram is to be transmitted at the beginning of a detection. |
| Telegram at beginning of recognition | ON telegram OFF telegram | A switch telegram is transmitted at the beginning of a detection. |
| Value at beginning of recognition (0...255) | 0 to 255, 255 | Only with the Output 1 = "Switching" function! A value telegram is transmitted at the beginning of a detection. |
| Light scene number at beginning of recognition (1...64) | 1 to 64, 1 | Only with Outp. 1 = "Value transmitter" function! A light scene call-up telegram is transmitted at the beginning of a detection. |
| Twilight step | Independent of brightness | Only with Output 1 = "Light scene extension" function! |
| | Operating mode = "Presence detector" 100-300 Lux 300-600 Lux 600-1000 Lux Operating mode = "Ceiling-mounted movement detector" 10-30 Lux 30-60 Lux 60-100 Lux | The triggering of the telegram is independent of the level of brightness. When the lighting is switched OFF, telegrams are only triggered when the level of brightness is less than the set value. This value results from the range set via ETS and the assigned value of twilight potentiometer as follows: Potentiometer central setting = average value of the range set via ETS Potentiometer zero setting = lower limit value of the range set via ETS Potentiometer maximum setting = upper limit value of the range set via ETS If the potentiometer acts on both outputs, the value of twilight only needs to be set at outp. 1. See also page 21 |
| Teach-In function ? (FA) | YES NO | This parameter releases the Teach-in function. A Teach-in function is not possible if value of twilight = "Independent of brightness"! |
| Operating mode of Teach-in function (FA) | 0 = active, 1 = inactive | This parameter determines the polarity of the Teach-In object. The Teach-in function is active when the object value is "0". |
| | 1 = active, 0 = inactive | The Teach-in function is active when the object value is "1". |
| | 0 = active, 1 = active | The Teach-in function is active when the object value is "0" or "1", i.e. a new brightness value is accepted with every object update. |


| | | |
|---|--|---|
| Cyclical transmission during recognition ? (FA) | YES NO | Cyclical transmission during a detected movement can be activated or de-activated. A movement is understood to be the period from the first detection impulse plus the standard delay (10 s) which begins with the last rising edge of the heat movement and the additional transmission delay. |
| | |  |
| Cyclic transmission, base (FA) | 1 s 34 s 9 min 2.1 s 1.1 min 18 min 4.2 s 2.2 min 35 min 8.4 s 4.5 min 17 s | Time basis for cyclic transmission. Cyclic transmission = base x factor |
| Cyclic transmission, factor (10...127) (FA) | 10 to 127, 10 | Time factor for cyclic transmission. Cyclic transmission = base x factor Pre-setting: 1 sec x 10 = 1 sec |
| Transmit telegram in case of retriggering? (FA) | NO YES | Retriggering during the additional transmission delay can be triggered with or without a telegram. Only with "Cyclic transmission = NO"! |

Parameters of parameter card: "Output 1: End of recognition"

| Parameters | | |
|---|--|---|
| Description | Values | Comment |
|  Output 1: End of the detection | | |
| Transmit telegram at end of recognition | YES | This parameter specifies whether a telegram is to be sent at the end of a detection. A switch telegram is sent at the end of a detection. Only with function output 1 = "Switching"! A value telegram is sent at the end of a detection. Only with function output 1 = "Value transmitter"! A light-scene call-up telegram is sent at the end of a detection. Only with function output 1 = "Light scene extension unit"! |
| Telegram at end of recognition | NO ON telegram OFF telegram | |
| Value at end of recognition (0...255) | 0 to 255, 0 | |
| Light scene number at end of recognition (1...64) | 1 to 64, 1 | |




| | | | |
|--|---|--|--|
| Additional transmission delay, base (Standard delay = 10 sec) | 1 s 17 s 4.5 min 2.1 s 34 s 9 min 4.2 s 1.1 min 18 min 8.4 s 2.2 min 35 min | | The total delay results from the addition of the standard delay (10 sec) and the additional transmission delay. |
| | | |  <p>Heat movement Standard-delay Additional delay time</p> <p>Time / sec</p> <p>Total delay</p> |
| Additional transmission delay, factor (0...127) | 0 to 127, 35 | | <p>Additional transmission delay = base x factor Definition of the time factor for the additional transmission delay.</p> <p>Additional transmission delay = base x factor Pre-setting: 1 sec x 35 = 35 sec</p> <p>See also page 21</p> <p>The switch OFF brightness can be adjusted via the correction factor.</p> <p>When twice the value (100%) of the twilight (switch OFF brightness) is exceeded, after a minimum of 10 minutes the parametered telegram is transmitted at the end of the detection even if somebody is still present.</p> |
| Correction of switch OFF hysteresis (+ = brighter, - = darker) (FA) | -15 0 +1 -14 +2 -13 +3 -12 +4 -11 +5 -10 +6 -9 +7 -8 +8 -7 +9 -6 +10 -5 +11 -4 +12 -3 +13 -2 +14 -1 +15 | | |

Parameters of parameter card: Output 1: Blocking function


| Parameters | | |
|--|---|---|
| Description | Values | Comment |
|  Blocking function | | |
| Blocking function | Enabled Disabled | This parameter can release the blocking function. |
| Polarity of blocking object | 0 = enabled, 1 = disabled 1 = enabled, 0 = disabled | The blocking function is activated when the object value = 1. The blocking function is activated when the object value = 0. |
| Transmit telegram at beginning of blocking ? Telegram at beginning of blocking | YES NO ON telegram OFF telegram | This parameter specifies whether a telegram is to be sent at the start of a blocking. A switch telegram is sent at the start of a blocking. |
| Value at start of blocking (0...255) | 0 to 255, 0 | Only for function output 1 = "Switching"! A value telegram is sent at the start of a blocking. |
| Light scene number at start of blocking (1...64) | 1 to 64, 1 | Only for function output 1 = "Value transmitter"! A light scene call-up telegram is sent at the start of a blocking. |
| Send telegram at end of blocking ? | YES NO | Only for function output 1 = "Light scene extension unit"! This parameter specifies whether a telegram is to be sent at the end of a blocking. |

| | | |
|--|------------------------------------|---|
| Telegram at the end of the muting | ON telegram OFF telegram | A switch telegram is sent at the end of a muting. Only for function output 1 = "Switch"! |
| Value at the end of the muting (0...255) | 0 to 255, 0 | A value telegram is sent at the end of a muting. Only for function output 1 = "Dim value transmitter"! |
| Light scene number at the end of the muting (1...64) | 1 to 64, 1 | A light scene call-up telegram is sent at the end of a muting. Only for function output 1 = "Light scene extension set"! |

Parameters of parameter card: Output 2

| |
|--|
|  Output 2: Evaluation of recognition, see output 1! |
|  Output 2: End of the recognition, see output 1! |
|  Output 2: Blocking function, see output 1! |

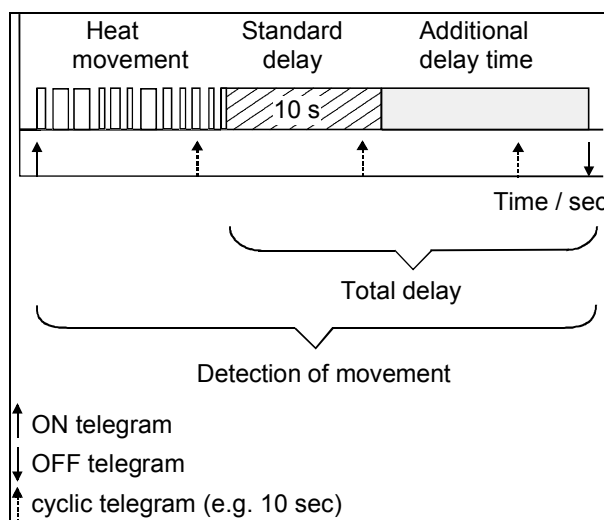
Parameters of parameter card: Bus voltage return

| Parameters | | |
|--|------------------------------------|---|
| Description | Values | Comment |
|  Bus voltage restoration | | |
| Output 1: Transmit telegram in case of bus voltage return ? | YES NO | This parameter specifies whether a telegram is to be sent when the bus voltage is restored. |
| Telegram in case of bus voltage return | ON telegram OFF telegram | A switch telegram is sent when the bus voltage is restored. Only for function output 1 = "Switching"! |
| Value in case of bus voltage return (0...255) | 0 to 255, 0 | A value telegram is sent when the bus voltage is restored. Only for function output 1 = "Value transmitter"! |
| Light scene number in case of bus voltage return (1...64) | 1 to 64, 1 | A light scene call-up telegram is sent when the bus voltage is restored. Only for function output 1 = "Light scene extension unit"! |
| Output 2: Transmit telegram in case of bus voltage return ? | YES NO | This parameter specifies whether a telegram is to be sent when the bus voltage is restored. |
| Telegram in case of bus voltage return | ON telegram OFF telegram | A switch telegram is sent when the bus voltage is restored. Only for function output 2 = "Switching"! |
| Value in case of bus voltage return (0...255) | 0 to 255, 0 | A value telegram is sent when the bus voltage is restored. Only for function output 2 = "Value transmitter"! |
| Light scene number in case of bus voltage return (1...64) | 1 to 64, 1 | A light scene call-off telegram is sent when the bus voltage is restored. Only for function output 2 = "Light scene extension unit"! |

Notes on the software

Detection movements

A movement is defined as the period of time from the start of the first detection impulse plus the standard delay (10 secs) which starts with the last rising edge of the heat movement and the additional transmission delay.



Telegrams can be sent at the beginning and end of a movement. While a movement is being recorded, the presence detector is in brightness-independent mode, i.e. it re-triggers the total delay independently of the ambient brightness with every new detection of a movement. If an OFF telegram or a value telegram "0" are not transmitted at the end of a detection, the presence detector continues to be in brightness-independent operating mode. When an OFF telegram or a value telegram "0" are received externally via the output objects, the presence detector starts the locking period of time. It is then possible for movements to be detected again.

Note that, after a light-scene call-up telegram has been sent at the end of a detection, the presence detector always works in brightness-dependent operating mode if the value of twilight is not set to brightness-independent operating mode! this means that special care needs to be taken because there may be undesirable detection of movements if the ambient brightness set by the light scene which has been called up is not higher than the twilight level!

After restoration or the bus voltage and during/after blocking operating mode, the presence detector may also be in brightness-independent mode depending on the telegrams which have been sent!

Interaction of outputs 1 and 2:

Differently parametered delay periods may result in outputs 1 and 2 sending telegrams at different times. Note that the outputs may block each other..

The following example gives more details of this:

If the interlocking time is started by output 1 (end of a detection) while output 2 is in active detection mode, then output 2 will also be locked i.e. during the locking period it will not detect any movements. This ensures that output 2 does not re-trigger the lamps which output 1 has switched off. When the locking time for output 1 has expired, output 2 is again able to detect movements.

If the additional transmission delay of output 2 expires before the locking period expires (end of a detection by output 2), the locking period starts again and both outputs continue to be locked.

Value of twilight

When the lights are switched OFF and the value of twilight is selected according to brightness (value interval selected), telegrams are only triggered when the brightness is below the set level. This value results from the range set by ETS (see page 15 for parameters) and the assigned value of twilight potentiometer as follows:

Potentiometer central setting \approx medium setting of the range set via ETS
Potentiometer minimum setting = lower limiting value of the range set via ETS
Potentiometer maximum setting = upper limiting value of the range set via ETS

Example:

Value of twilight = 300 – 600 lux Potentiometer central setting \approx 450 lux
Potentiometer minimum setting = 300 lux
Potentiometer maximum setting = 600 lux

If the potentiometer acts on both outputs, it is only necessary to set the value of twilight at output 1.

The value of twilight can be muted via the parameter "Potentiometer 'value of twilight' acts on". If the potentiometer is muted, the average value of the brightness range set by means of the "Value of twilight" parameter applies.

"Additional transmission delay" potentiometer

The "Additional transmission delay" potentiometer can be used to vary the period of the additional transmission delay by $\pm 50\%$ of the value parametered via the ETS.

The period of time set via the potentiometer is as follows:

Potentiometer central setting = value set via the ETS
Potentiometer minimum setting = - 50% of the value set via the ETS
Potentiometer maximum setting = + 50% of the value set via the ETS

Example:

additional transmission delay basis = 1s, additional transmission delay factor = 35
 \Rightarrow additional transmission delay = 35s Potentiometer central setting \approx 35 s
Potentiometer minimum setting \approx 17 s
Potentiometer maximum setting \approx 52 s

If the potentiometer acts on both outputs, it is only necessary to set the additional transmission delay at output 1.

The potentiometer can be muted via the " 'additional transmission delay' " parameter. If the potentiometer is muted, the value of the delay set by the "additional transmission delay" parameter applies per output.