Movement/monitoring 1307/1.0

● General

In the following the device will be referred to as the movement detector.
The movement block will only switch off when there is no more movement in front of the device - in other words, independently of the brightness.
The ETS application includes 5 independent movement blocks, each with 4 output objects.

> **ℹ Note:**
> All of the settings described refer to ETS version 3, but you can also use all the settings and functions with ETS version 2.
> The application files (vd2 and vd3) are configured in such a way that the application loading time is considerably reduced. When you convert an ETS 2 project to ETS 3, you lose this time saving. If you are working with ETS 3, use the vd3 files.
> Total possible addresses and connections: 254 addresses; 255 connections

> **ℹ Note:**
> If you switch back to the preset values in either ETS 2 or ETS 3 (by clicking "Standard"), all the values that you have changed so far will be deleted. Any group addresses which have been parametrised will be lost.

> **ℹ Note**:
> Due to the fact that various functions depend on other functions, these dependent functions will not be visible and selectable in the ETS unless the preceding function has been enabled. If you de-select functions or change parameters, group addresses that have already been connected may be removed.

● Getting started quickly

When you insert the application in the ETS or click on the "Standard" button, the ETS application will switch automatically to minimum configuration.

In minimum configuration, it is possible to put the presence detector into operation. For some application cases, the minimum configuration is even adequate for practical use. We also recommend opening minimum configuration as a way of familiarising yourself with the application software for the presence detector. Here all of the extended or more complex parameters are disabled. In "Block configuration" only the first "Movement" block is enabled for use. In the "Telegrams" tab only output object 1 is enabled. This is a 1-bit output object. At the start of movement this object sends a 1 telegram and when the internal staircase timer has elapsed it sends a 0 telegram. Each parameter can always be tuned to its individual requirements. The brightness threshold and the staircase timer always need to be adjusted to suit requirements. Check the "Brightness" and "Times" tabs.
In this way the corresponding objects are connected to a KNX switch actuator.
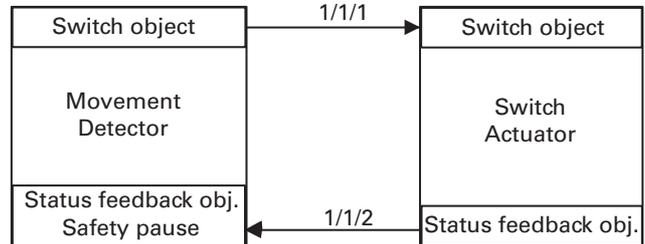
To familiarise yourself with the extended and more complex parameters see the following pages.

● General functions

The common safety pause

The application has a common safety pause system - in other words, a safety pause triggered by the movement detector will affect all blocks in the application. As specified in a parameter the safety pause can be triggered at the status feedback object (safety pause) when there is an OFF telegram or when there is an OFF and ON telegram.
The status feedback object of the switching/dimming actuator must be connected to the feedback safety pause object of the movement detector.
Once a safety pause has been started, signals from the movement sensor will no longer be evaluated for this period of time. An elapsed staircase timer cannot be started by a movement during an active safety pause and an ongoing staircase timer cannot be retriggered by a movement.
An ongoing staircase timer is not affected by a safety pause being activated. In other words, the staircase timer will run through in the usual way.

> **ℹ Note:**
> Optical feedback can only be avoided by selecting the right installation location for the movement detector and the lighting. The safety pause system and the safety pause object of the application cannot compensate for all planning mistakes.

Communication objects

You can select the following communication objects:

General:

Function	Object name	Type	Prio	Flags	Behaviour
Safety pause	Status feedback object	1 bit	Low	WC	Receive

Parameter

Note:
The parameter settings include various functions which depend on other functions. Depending on the parameter setting, some functions or objects may or may not be displayed in the ETS.

General	
Parameter	**Setting**
Safety pause via status feedback object	Disabled
	For OFF telegram
	For ON and OFF telegram
Safety pause (1 - 20) seconds	1-20, preset: **2**

● **General brightness evaluation:**

The current brightness can be determined by the internal brightness sensor, by an external communication object or by both dependencies. The relationship between internal and external values can be parametrised while doing this.

Communication objects

You can select the following communication objects:

General:

Function	Object name	Type	Prio	Flags	Behaviour
External sensor	Actual value input	2 bytes	Low	WCT U	Transmit/ receive/ update

Parameter

General	
Parameter	**Setting**
Actual value (brightness)	**From internal sensor**
	From object, actual value input
	From internal sensor and object
Taking the separately measured lux value (0% - 100%) into account	0% - 100%, in 5% steps; preconfiguration **50%**

For actual value correction you will need a luxmeter. The measured values are then input into the application software of the presence detector. When intense sunlight is shining onto the reference area or the installation location, the measurements should not be taken. Under certain circumstances darkening the room may improve the measurement results.

● **Movement block**

Basic function of a movement block

A staircase timer is "integrated" into a movement block. When the ambient brightness is too low **and** a movement is detected, the movement block transmits an ON telegram to the bus. When no further movement is detected the staircase timer starts. An OFF telegram is transmitted to the bus after a parametrised time.
Brightness is measured **only** at the moment when the first movement is detected. If further movement is detected, an OFF telegram is **not** transmitted, irrespective of brightness changes. The staircase timer starts only when movement is no longer detected, and an OFF telegram is transmitted after the parametrised time period.

Block configuration

Up to five movement blocks are available. In the default setting, block 1 is enabled.

Parameter

Block configuration	
Parameter	**Setting**
Movement block X	Enabled
	Disabled

Movement detection

The device has a detection angle of 220°.

To suppress disturbance variables or if delayed activation is required, a dead time for the start of movement can be activated. The dead time is started after movement has been detected (start of movement). The start of movement action (transmitting a telegram to the bus) can take place if a movement is still detected within the movement time after the dead time has elapsed.
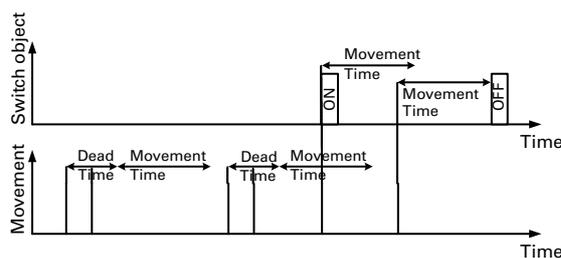
In master mode or normal mode the movement time corresponds to the staircase timer in the diagram above. In slave mode or monitoring mode the movement time corresponds to the cycle time. In practice a large number of applications can be implemented by means of the various blocks.

Block diagram of movement block

A block diagram clarifies the relationships between the individual dependencies.
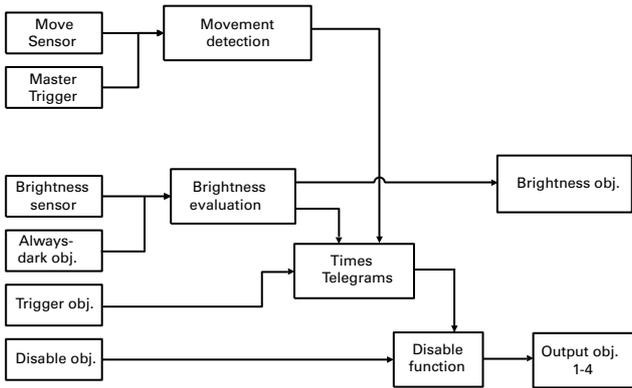
Movement evaluation

As has already been stated above, the movement sensor input into movement detection.
The master trigger object is brightness-dependent and with an ON telegram simulates a movement; an OFF telegram is ignored.
The trigger object is brightness-independent and also simulates a movement for an ON telegram . Whether the trigger object can switch the lighting off early when there is an OFF telegram can be parametrised.

Note:
The master trigger object and the trigger object do not appear in the ETS until the device operating mode has been set to "Master mode". See "Block X, general" tab, parameter: "Operating mode". The master/trigger object ignores the dead time (for Dead time, see above) and reacts without a delay. More detailed information about the master/trigger object may be found later on.

Communication objects

You can select the following communication objects:

Block X, general movement sensors:

Function	Object name	Type	Prio	Flags	Behaviour
Block X	Range	1 byte	Low	WC	Receive

Parameter

Note:
The parameter settings include various functions which depend on other functions. Depending on the parameter setting, some functions or objects may or may not be displayed in the ETS.

Block X, general - movement sensors	
Parameter	**Setting**
Advanced settings	Enabled
	Disabled
The following settings are only visible when "Disabled".	
Sensitivity (for all sensors)	**High**
	Medium
	Low
Range adjustable	Potentiometer
	Parameter
Range (only visible by "Parameter")	10% - 100% (in 10% steps) preconfiguration: **100%**
The following settings are only visible when "Enabled".	
Range object (for all sensors)	**Disabled**
	Enabled
Dead time, start of movement (for all sensors)	**Disabled**
	Enabled
Time base	**1 min**, 1s
Time factor (1 - 255)	**3**, (1-255)

Block X, general movement sensors sector X	
Parameter	**Setting**
Sensitivity	**High**
	Medium
	Low
Range adjustable	**Via parameters**
	Via Potentiometer
Overwrite range during download	**Enabled**
	Disabled
Range	10% - 100% (in 10% steps) preconfiguration: **100%**
Change range via object	**Disabled**
	Enabled

● **Brightness evaluation**

Brightness evaluation of a movement detector:
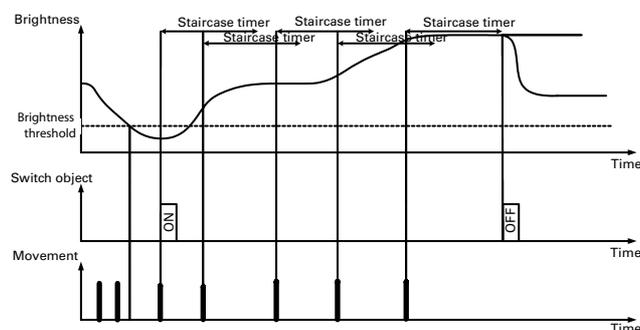
The movement detector changes to non-brightness-dependent mode once the start of movement action (sending an ON telegram) has been carried out. Here freshly detected movements can retrigger the staircase timer. The movement detector cannot process the brightness jump and there is not even any setting of a hysteresis.

Brightness

The brightness threshold can be parametrised separately for each of the five movement blocks. Each block has its own "Brightness" tab. A staircase timer be started (depending on parametrisation of the device) and an ON telegram transmitted to the bus only after the value is below the parametrised brightness threshold and the movement detector detects a movement. The brightness threshold can be set between 3 and 1000 lux.

Via the "Brightness threshold object" "Enabled" or "Disabled" you can select whether the brightness threshold should be changed via the bus. This can be useful when several movement detectors are installed in a building. The brightness threshold can be changed using the "Brightness threshold - Block X" object via the ETS or an IP touch panel, for example. The brightness threshold is set to the same level in all parts of the building.

Brightness object 1 bit

The brightness object sends a 1-bit value on the bus. If the parametrised brightness threshold is not reached, an ON telegram can be transmitted. If the parametrised brightness threshold is exceeded, an OFF telegram can be transmitted. Inverted transmission can also be set.
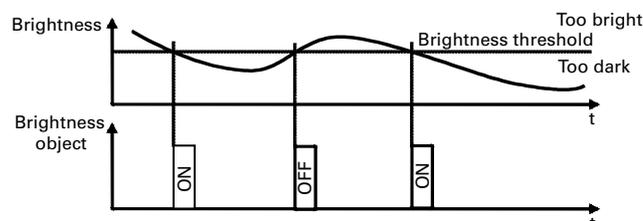
Always-dark object

In the case of an enabled "always-dark object", darkness can be simulated internally in the movement detector depending on the object value. The "always-dark object" is used with master/slave circuits. Planning master/slave circuits is described further below.

Communication objects

You can select the following communication objects:

Block X, general brightness:

Function	Object name	Type	Prio	Flags	Behaviour
Block X	Brightness threshold	2 bytes	Low	WC	Receive
Block X	Brightness object	1 bit	Low	CT	Transmit
Block X	Always-dark object	1 bit	Low	WC	Receive

ℹ️ **Note:**
The parameter settings include various functions which depend on other functions. Depending on the parameter setting, some functions or objects may or may not be displayed in the ETS.

Parameter

Block X, general brightness	
Parameter	**Setting**
Movement detection is	**brightness-dependent**
	independent of brightness
Brightness threshold adjustable via	**Parameters**
	Potentiometer
Overwrite brightness threshold during download	**Enabled**
	Disabled
Brightness threshold (3 - 1000 lux) see "General" tab	3 - 1000 lux; preconfiguration: **130**
Brightness threshold object	**Disabled**
	Enabled
Brightness object 1 bit	**Do not send**
	Transmit
	Transmit inverted
Always-dark object (= not brightness-dependent)	**Disabled**
	Enabled
Switch on at movment	**Enabled**
	Disabled

● Operating modes

The operating mode in which this block operates is specified in the application software for each block (movement blocks 1 - 5). The following operating modes are available:

– Normal operation

– Master mode

– Slave mode

– Monitoring mode

Depending on the operating mode different parameters and communication objects will be displayed. Each operating mode can operate brightness-dependently or non-brightness-dependently.

Normal operation

In this operating mode the movement detector does not have any external trigger objects (master trigger object, trigger object). Telegrams cannot be sent cyclically and this means a master-slave system cannot be set up. In the default setting, the movement detector transmits an ON telegram at the start of movement and transmits an OFF telegram when the movement time (staircase timer) has expired.

Note:
Use the "Normal operation" setting when the movement detector is working for itself alone. In other words, one movement detector is used for each room and it switches one light or one light panel.

Master mode

With master mode all of the possible parameters and communication objects of the movement detector are available. A master-slave system can be set up with the aid of the master trigger object or the trigger object. In the default setting, the movement detector transmits an ON telegram at the start of movement and transmits an OFF telegram when the movement time (staircase timer) has expired.

Slave mode

In slave mode the default setting is that ON telegrams are sent cyclically when a movement is detected. These telegrams are intended for the master trigger object or for the trigger object of the master.

Monitoring mode

In monitoring mode the default setting is that ON telegrams are sent cyclically when a movement is detected. At the end of the movement time (cycle time with movement) OFF telegrams are transmitted cyclically.

Note:
Use the "Monitoring mode" setting when the movementmovement detector is being used for room monitoring and telegrams are to be sent cyclically on the bus.

Communication objects

You can select the following communication objects:

Block X, general:

Function	Object name	Type	Prio	Flags	Behaviour
The objects are only visible in "Master mode" operating mode.					
Block X	Master trigger object	1 bit	Low	WC	Receive
Block X	Trigger object	1 bit	Low	WC	Receive

Parameter

Block X, general	
Parameter	**Setting**
Operating mode	**Normal operation**
	Master mode
	Slave mode
	Monitoring mode

Note:
When toggling between operating modes the "Brightness" and "Times" tabs change.

● **Telegrams**

For each movement block the "Action at start of movement" can be set as a function of the operating mode.

Normal operation:

– "Send immediately"

– "Do not send"

Master mode:

– "Send immediately"

– "Send immediately and then cyclically"

– "Do not send"

Slave mode:

– "Send immediately and then cyclically" (is permanent setting in the background of the application software, is not displayed in the parameters)

Monitoring mode:

– "Send immediately and then cyclically" (is permanent setting in the background of the application software, is not displayed in the parameters)

The behaviour after the "End of movement time" can also be set as a function of the operating mode.

Normal operation:

– "Send after staircase timer/remaining time has elapsed"

– "Do not send"

Master mode:

– "Send after staircase timer/remaining time has elapsed"

– "Send after staircase timer has elapsed and then cyclically"

– "Do not send"

Slave mode:

– "Do not send" (is permanent setting in the background of the application software, is not displayed in the parameters)

Monitoring mode:

– "Send at end of cycle time when there is movement and then cyclically" (is permanent setting in the background of the application software, is not displayed in the parameters)

Four output objects are available for each of the five movement blocks and they can be enabled via the application software. A transmission pause between the individual output objects can be set for each block.

Note:
Five movement blocks and four output objects per movement detector means that 20 switching/value objects in all are available.

Parameter

i | **Note:**
The parameter settings include various functions which depend on other functions. Depending on the parameter setting, some functions or objects may or may not be displayed in the ETS.

Block X, general telegrams	
Parameter	**Setting**
Action at start of movement	**Send immediately**
	Do not send
	Send immediately and then cyclically
When movement time elapsed	**Send after staircase timer/ remaining time has elapsed**
	Do not send
	"Send after staircase timer/ remaining time has elapsed and then cyclically"
Output object X (1 - 4)	**Enabled**
	Disabled
Pause between two telegrams (3 - 255) x 100 ms	3 - 255; preconfiguration: **5**

Output for switching/value object X

For each output object you can select between a 1-bit, 1-byte (0% - 100%), 1-byte (0 - 255) and 2-byte object. The telegram values should be parametrised for the start of movement and for the end of the movement time. Here an object can transmit its current value or a defined value to the bus.

i | **Note:**
The current value can be transmitted by a time switch, for example. During the night a lower byte value is transmitted to the output object of the movement detector than in daytime hours.

Communication objects

You can select the following communication objects:

Block X general - telegrams - output for switching/ value object X:

Function	Object name	Type	Prio	Flags	Behaviour
Block X	Switch object X	1 bit	Low	WCT	Transmit/ receive
Block X	Value object X	1 byte	Low	WCT	Transmit/ receive
Block X	Value object X	2 bytes	Low	WCT	Transmit/ receive

Parameter

i | **Note:**
The parameter settings shown below are **dependent** on the operating mode and the object settings (1 bit, 1 byte or 2 bytes). Depending on the parametrisation some

parameters will not be displayed!
The parameter settings include various functions which depend on other functions. Depending on the parameter setting, some functions or objects may or may not be displayed in the ETS.

Block X general telegrams output switching/value object X	
Parameter	**Setting**
Object	**1 bit**
	1 byte 0% - 100%
	1 byte 0 - 255
	2 bytes
At start of movement	**Transmits defined value**
	Transmits its value
Value	**ON telegram**
	OFF telegram
	0% - 100%
	0 - 255
When movement time elapsed	**Transmits defined value**
	Transmits its value
Value	ON telegram
	OFF telegram
	0% - 100%
	0 - 255

i | **Note regarding 2-byte parameter settings:**
Depending on the setting of the object type value there will be new parameters; depending on the parametrisation the values can be input immediately or are determined via sign x basic value x factor.

● **Staircase timer**

The staircase timer or cycle time can be parametrised via a time base x factor. With "Normal operation" and "Master mode" operating modes the "Staircase timer" is parametrised. With "Slave mode" and "Monitoring mode" operating modes the "Cycle time" is parametrised.

i The "Times" tab has some parameter displays and selectable objects which are **dependent** on the operating mode set.

i **Note:**
In "Slave mode" and "Monitoring mode" operating modes no further objects are displayed by modification on the "Times" tab.

Self-adjusting staircase timer

The movementmovement detector is equipped with a "Self-adjusting staircase timer". When the "Self-adjusting staircase timer" is enabled, the movement detector can start a brief overshoot time when someone is in the room for a short time. If they remain in the room longer, a long overshoot time is started. The parameters "Time base", "Minimum time factor", "Time factor for learning step", "Maximum time factor" and "Sensitivity of the learning step" are available for the "Self-adjusting staircase timer." If there is only a brief movement in front of the movement detector, the overshoot time (until switch-off) will be close to the "Minimum time factor" x "Time basis". If movements last longer, a "Time factor for learning step" will be added to the staircase timer up to the maximum, depending on what learning sensitivity has been set. Once the time set on the staircase timer has elapsed, a restart takes place with "Minimum time factor".

Communication objects

Operating mode: Normal operation
You can select the following communication objects:

Block X, general times:

Function	Object name	Type	Prio	Flags	Behaviour
Block X	Time factor, staircase timer	1 byte	Low	WC	Transmit

Parameter
Operating mode: Normal operation

i **Note:**
The parameter settings include various functions which depend on other functions. Depending on the parameter setting, some functions or objects may or may not be displayed in the ETS.

Block X, general times	
Parameter	**Setting**
Via movement, time is	**Retriggerable**
	Not retriggerable
Staircase timer adjustable via	**Parameters**
	Potentiometer
Overwriting staircase timer during download	**Enabled**
	Disabled
Self-adjusting staircase timer (always retriggerable)	**Disabled**
	Enabled
The following settings are only visible when "Self-adjusting staircase timer" is "disabled".	
Time factor staircase timer object	**Disabled**
	Enabled
Time base, staircase timer	**1 min**
	1 s
	1 hr
Time factor for staircase timer (1 - 255)	1 - 255; preconfiguration: **25**
The following settings are only visible when "Self-adjusting staircase timer" is "enabled".	
Minimum time factor (1 - 255) Staircase timer	1 - 255; preconfiguration: **5**
Time factor for learning step (1 - 255) Staircase timer	1 - 255; preconfiguration: **1**
Maximum time factor (1 - 255) Staircase timer	1 - 255; preconfiguration: **25**
Sensitivity of learning step	1 - 5; preconfiguration: **4** 1 = slow 5 = sensitive

Communication objects

Operating mode: Master mode
You can select the following communication objects:

Block X, general times:

Function	Object name	Type	Prio	Flags	Behaviour
Block X	Master trigger object	1 bit	Low	WC	Transmit
Block X	Trigger object	1 bit	Low	WC	Transmit
Block X	Time factor, staircase timer	1 byte	Low	WC	Transmit

Parameter
Operating mode: Master mode

i **Note:**
The parameter settings include various functions which depend on other functions.

Depending on the parameter setting, some functions or objects may or may not be displayed in the ETS.

Block X, general times	
Parameter	**Setting**
Master triggering is (brightness-dependent)	**Enabled**
	Disabled
Via movement/master trigger object, time is	**Retriggerable**
	Not retriggerable
Master trigger object includes the safety pause	**Enabled**
	Disabled
Triggering is (not brightness-dependent)	**Enabled**
	Disabled
Switch off staircase timer via trigger object	**Enabled**
	Disabled
Via trigger object, time is	**Retriggerable**
	Not retriggerable
Trigger object includes the safety pause	**Enabled**
	Disabled
Staircase timer adjustable via	**Parameters**
	Potentiometer
Overwriting staircase timer during download	**Enabled**
	Disabled
Self-adjusting staircase timer (always retriggerable)	**Disabled**
	Enabled
The following settings are only visible when "Self-adjusting staircase timer" is "disabled".	
Time factor staircase timer object	**Disabled**
	Enabled
Time base, staircase timer	**1 min**
	1 s
	1 hr
Time factor for staircase timer (1 - 255)	1 - 255; preconfiguration: **25**
The following settings are only visible when "Self-adjusting staircase timer" is "enabled".	
Minimum time factor (1 - 255) Staircase timer	1 - 255; preconfiguration: **5**
Time factor for learning step (1 - 255) Staircase timer	1 - 255; preconfiguration: **1**
Maximum time factor (1 - 255) Staircase timer	1 - 255; preconfiguration: **25**
Sensitivity of learning step	1 - 5; preconfiguration: **4** 1 = slow 5 = sensitive

Communication objects

Operating mode: Slave mode

i **Note:**
No objects for "Time factor" or objects for "Triggering" are displayed.

Parameter
Operating mode: Slave mode

Block X, general times	
Parameter	**Setting**
Cyclic interval during movement	
Time base	**1 min**
	1 s
	1 hr
Time factor (1 - 255)	1 - 255; preconfiguration: **5**

Communication objects

Operating mode: Monitoring mode

i **Note:**
No objects for "Time factor" or objects for "Triggering" are displayed.

Parameter
Operating mode: Monitoring mode

Block X, general times	
Parameter	**Setting**
Cyclic interval during movement	
Time base	**1 s**
	1 min
	1 hr
Time factor (1 - 255)	1 - 255; preconfiguration: **5**
Cyclic interval when movement time has elapsed	
Time base	**1 s**
	1 min
	1 hr
Time factor (1 - 255)	1 - 255; preconfiguration: **5**

● Disable function

The movement detector can be disabled with the aid of the disable object; here the activation time point can be download / bus voltage recovery or reception of a disable telegram. The activation telegram for the disable function can be an ON telegram or an OFF telegram. At the start of disablement (if enabled via parameter) a telegram can be sent via the corresponding output object. Cyclic transmission makes sense with, for example, monitoring since certain bus devices require a cyclically transmitted OFF telegram. When the disable function is disabled, the current status of the movement detector is restored (an ongoing staircase timer is not stopped/ start of movement actions or action when movement time elapses is transmitted).

Communication objects

You can select the following communication objects:

Block X, general:

Function	Object name	Type	Prio	Flags	Behaviour
Block X	Disable object	1 bit	Low	WC	Receive

Parameter

Block X, general	
Parameter	Setting
Disable function	**Disabled**
	Enabled

Block X, general - disable function	
Parameter	Setting
Activation time point of disable function	**Active during telegram reception**
	After download / bus voltage recovery
Block	**For object value "1"**
	For object value "0"
Behaviour at the start of Telegrams block on Output object 1-4 tab	**Do not transmit a telegram**
	Transmit telegram
Behaviour at the start of Telegrams block on Output object 1-4 tab (only visible at master- or monitoring mode)	Transmit cyclic telegram
Time base	**1 s**
	1 min
	1 hr
Time factor (1 - 255)	1 - 255; preconfiguration: **30**

Block X general telegrams output switching/value object X	
Parameter	Setting
At start of block	**OFF telegram**
	ON telegram
	1 byte 0% - 100%
	1 byte 0 - 255
	2 bytes floating point or value

> **ℹ Note regarding 2-byte parameter settings:**
> Depending on the setting of the object type value there will be new parameters; depending on the parametrisation the values can be input immediately or are ascertained via sign x basic value x factor.

● Changing specific parameters via the bus

The following parameters can be modified via the bus:
– "Time factor, staircase timer"
– "Range"
– "Brightness threshold"

> **ℹ Note:**
> Following bus voltage failure and recovery the modified values will be retained.

Communication objects

You can select the following communication objects:

Block X, general times:

Function	Object name	Type	Prio	Flags	Behaviour
Block X	Time factor, staircase timer	1 byte	Low	WC	Receive

Block X, general movement sensors:

Function	Object name	Type	Prio	Flags	Behaviour
Block X	Range	1 byte	Low	WC	Receive

Block X, general brightness:

Function	Object name	Type	Prio	Flags	Behaviour
Block X	Brightness threshold	2 bytes	Low	WC	Receive

Parameter

Block X, general times	
Parameter	Setting
Time factor staircase timer object	**Disabled**
	Enabled

Block X, general movement sensors	
Parameter	**Setting**
Range object (for all sensors)	**Disabled**
	Enabled

Block X, general brightness	
Parameter	**Setting**
Brightness threshold object	**Disabled**
	Enabled

● **Master/slave planning via the trigger object or master trigger object**

General information regarding the trigger object and master trigger object

The trigger object acts on the staircase timer **without** brightness measurement. Object value "1" starts the staircase timer (start of movement action) while further "1" telegrams retrigger the staircase timer, if enabled.
Object value "0" can switch the staircase timer off (end of movement time action), if enabled.

The master trigger object acts on the staircase timer **with** brightness measurement. Object value "1" starts the staircase timer (start of movement action) while further "1" telegrams retrigger the staircase timer, if enabled.
Object value "0" has no meaning as regards the master trigger object.
The parameters "Trigger object observes the safety pause" (enabled/disabled) and "Master trigger object observes the safety pause" (enabled/disabled) determine the effect of the safety pause on the two external trigger objects.
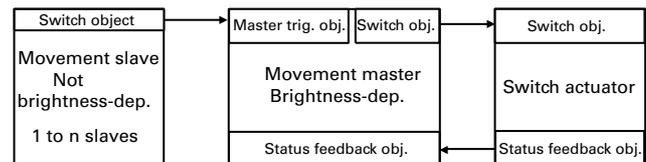
Application example 1:
Slave as movement detector (not brightness-dependent) and master as movement detector (not brightness-dependent)
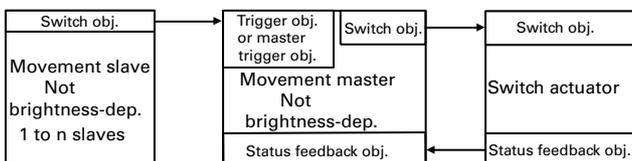
– System not brightness-dependent
– Slave transmits ON telegrams cyclically after movement
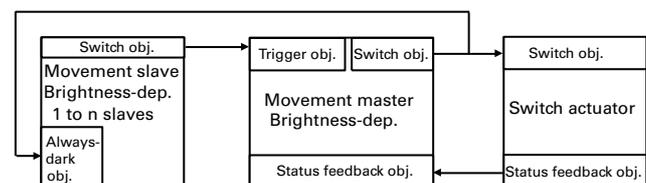– Master switches on actuator when movement detected or trigger

– Master retriggers staircase timer when movement detected or trigger
– Master switches off when staircase timer elapses
– Cycle time slave maximum staircase timer / 2
– Staircase timer retriggerable via movement / master trigger / trigger

Application example 2:
Slave as movement detector (not brightness-dependent) and master as movement detector (brightness-dependent)

– Master evaluates brightness locally
– Slave transmits ON telegrams cyclically after movement
– Master switches on actuator upon movement detection or master trigger if it is too dark
– Master retriggers staircase timer upon movement detection or trigger, if previously switched on
– Master switches off when staircase timer elapses
– Cycle time slave maximum staircase timer / 2
– Staircase timer retriggerable via movement / master trigger / trigger

Application example 3:
Slave as movement detector (brightness-dependent) and master as movement detector (brightness-dependent)

– Master and slave evaluate the brightness
– Slave sends ON telegrams cyclically upon movement detection if it is too dark or "Always-dark object" is "1".
– Master switches on actuator upon movement detection, if it is too dark
– Master switches on actuator upon trigger
– Master retriggers staircase timer upon movement detection or trigger, if previously switched on
– Master switches off when staircase timer elapses (always-dark object again "0")

– Cycle time slave maximum staircase timer / 2
– Staircase timer retriggerable via movement / master trigger / trigger

Behaviour on application/recovery of the bus voltage

The actual value input (external sensor), the status feedback object (brightness value dimming actuator) can transmit read requests depending on the parametrisation.
The operating mode status feedback message and the brightness object can be transmitted depending on the parametrisation.