Master luminaire with LIGHTGATEbasic

Operating instructions

Service instructions

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TRILUX

Operating instructions

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Introduction

Basic functions

LIGHTGATEbasic can be individually configured for operation of luminaires according to needs. All connected luminaires (ballasts) must have a DALI interface (Digital Addressable Lighting Interface).

Daylight-dependent operation
Daylight-dependent operation reduces the energy consumption of the lighting system. With the presence of daylight, lighting is dimmed or switched off.
With approaching darkness, lighting is automatically brightened again.

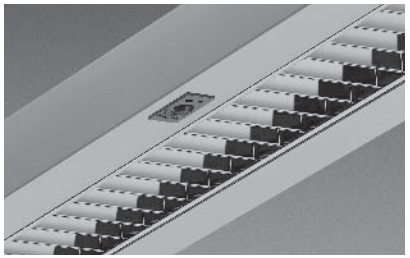
Uncontrolled operation
When required, daylight-dependent operation can be deactivated by dimming manually to a desired brightness. This is convenient for example with the intuitive one-button operation via a closing device.

Presence detection
In many cases further energy saving is possible via presence detection. For this purpose one or two presence sensors are integrated. The sensors are designed to detect even slight movements (in offices for example).

Lighting scenes
The lighting system in a room can be separated into two separate luminaire groups during installation of LIGHTGATEbasic. These can be set to differing brightness levels.
Such ‚lighting scenes' can be saved with the system remote control and then called up again later.

System luminaires and components

Master luminaires
Master luminaires are wired ready for connection and equipped with an internal control unit and sensor.
An additional sensor can be connected.
Connections for the DALI interfaces, the control button and for further luminaires are located at easily accessible plug-in terminals.



Controller luminaires
The setup of **controller luminaires** is mainly identical to master luminaires, but the sensor is mounted externally.

Sensor luminaires
Sensor luminaires are system luminaires equipped with only one sensor, and can be used for expansion of presence detection or for independent control of a second area (a second luminaire group).

IR remote control LGR-SI
The sensor unit of the system additionally contains an IR (infrared) receiver for system remote control. This enables additional operating and programming functions. System remote controls can be addressed for separately operating individual luminaires in a room.

Operating modes and operation

Operating modes

Daylight-dependent operation
After switching on LIGHTGATEbasic is fundamentally in **daylight-dependent operation** (controlled operation), which is the energy-saving operation (if a sensor is connected and daylight-dependent control has not been deactivated).

Uncontrolled operation
Switching over to uncontrolled operation occurs fundamentally with manual dimming or calling up of a **lighting scene**. The uncontrolled operational state is signalled by a constantly lit LED in the sensor unit. Daylight-dependent control remains inactive until switching off. After switching on again, control is again active.

Presence detection
The **presence detection** is fundamentally independent of light control, and either automatic mode or semi-automatic mode can be selected. The switch-off delay can be set between one minute and 30 minutes. In semi-automatic mode, switching on again is deactivated.

Standby
To operate the LIGHTGATEbasic system with a closing device or system remote control it must be in standby mode. This results in lower but permanent power consumption of the control unit of < 0.4 watts. For the connected luminaires no standby consumption must be considered if their voltage supply connection is via the switching output (L´) in the master luminaire (see service instructions).

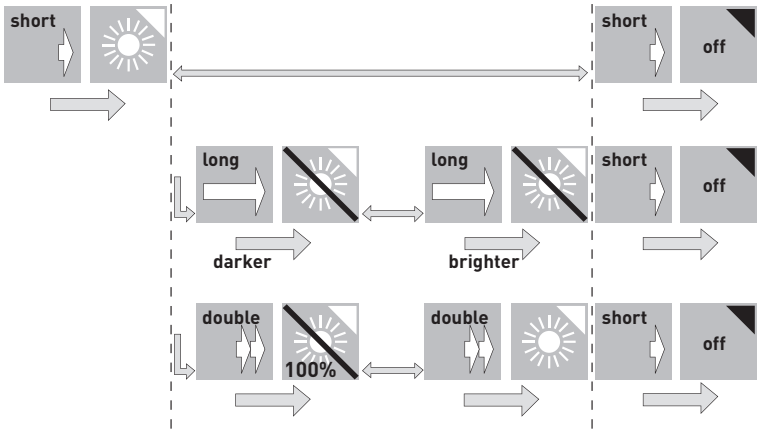
Operation

Automatic operation
With LIGHTGATEbasic, a lighting system can be operated fully automatically without switches and buttons. Daylight-dependent operation and presence detection (automatic mode, see above) ensures that there is always sufficient light to meet needs.

Mains switch operation
In many cases only a mains switch as operating element is sufficient for the lighting. When the lighting system is switched on it fundamentally starts in daylight-dependent operation.

Single-button operation
Single-button operation enables more functions compared to the mains switch. This is intended for all LIGHTGATEbasic applications with one or two luminaire groups.
This includes the button functions:
- Switching on and off
- Dimming and brightening (groups 1 and 2)
- Switching lighting system between daylight-dependent operation and uncontrolled operation with 100%.

Push button (groups 1 and 2)



Push button functions

short

Short press of button
Switching the lighting system on/off, when switched on the lighting system is fundamentally in daylight-dependent mode.

Note:
With uncontrolled operation, the lighting system is initially switched off with a short press of the button. Switching on again is fundamentally in daylight-dependent mode.

long

Pressing and holding button
Alternate brightening/dimming of lighting system via pressing and holding the button, daylight-dependent operation is deactivated.

Note:
Renewed pressing and holding changes the dimming direction.

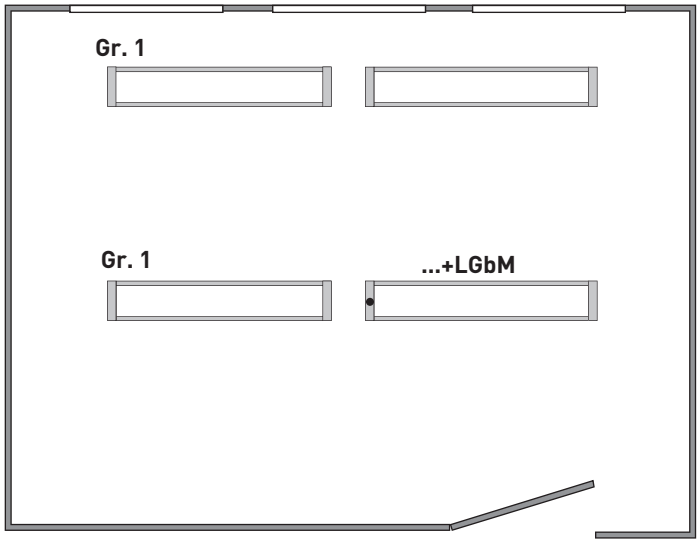
double

Double click (two short presses) changes between daylight-dependent operation and uncontrolled operation with 100%.

Note:
With uncontrolled operation with a random dimming value, a double click initially changes to daylight-dependent operation.
A second double click leads according to the main function to uncontrolled operation with 100%.
A double click has no effect with lighting switched off (standby).

Complete room control (control of a luminaire group)

Most applications will require controlling of the complete lighting system as one **luminaire group** with a **light sensor** dependent upon daylight.
In uncontrolled operation, LIGHTGATEbasic with remote control offers separate manual dimming of two luminaire groups even in such cases if these have been set up during installation, as well as the calling up of four preset lighting scenes.

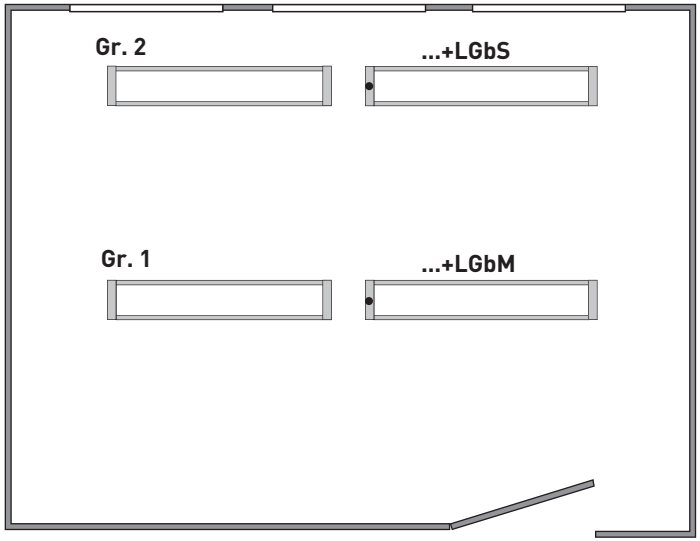


The following operating modes are possible:
- **Automatic operation**
- **Mains switch operation**
- **Single-button operation**
- **Remote control**

(see page 5)

Individual control of two luminaire groups

In rooms having areas with strongly differing daylight levels, e.g. with deep rooms, two independently controlled luminaire groups can be set up. Two light sensors are required for separate control of the groups. The nominal values are set separately. The controls of the areas dim independently. Presence detection covers both areas.

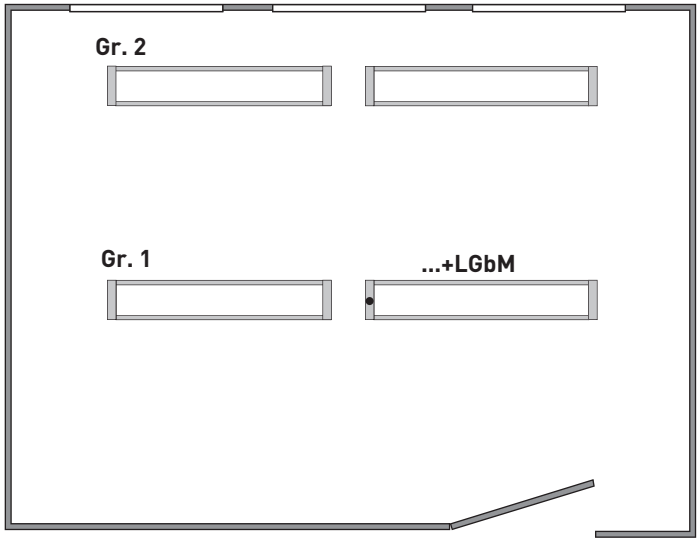


The following operating modes are possible:
- **Automatic operation**
- **Mains switch operation**
- **Single-button operation**
- **Remote control**

(see page 5)

Offset control with two luminaire groups and one light sensor

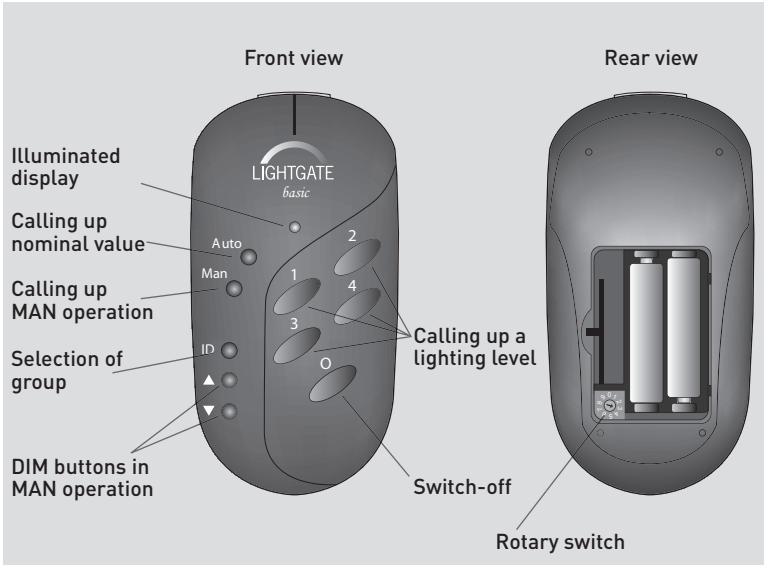
For **offset control** the luminaires of the lighting system are divided into two groups consisting of near to and away from windows, but controlled only with one sensor according to daylight.
This operating mode can be used in rooms with mid-sized depth in which a second sensor is not necessary. **Group 1** (away from the window) is always controlled by the light sensor. **Group 2** (near to the window) is dimmed together with **group 1**.
The difference (offset) of **group 2** to **group 1** can be specified. With increasing daylight, **group 2** dims to a minimum and remains at this level until with sufficient daylight it is switched off together with **group 1**.
With decreasing daylight the offset value is automatically reduced so that without daylight both luminaire groups have the same dimming level. As specified by LIGHTGATEbasic functionality, the group away from the window should always be selected as ‚**group 1**' and the group near to the window as ‚**group 2**'.



The following operating modes are possible:
- **Automatic operation**
- **Mains switch operation**
- **Single-button operation**
- **Remote control**

(see page 5)

Operation with the system remote control
(Rotary switch position 0)



Switching on or switching over

Auto — Daylight-dependent operation
(as complete room control, individual control of two luminaire groups or offset control)

Man — Uncontrolled operation (switching on at 50%)

1 — Preset lighting scenes (1 - 4), uncontrolled

Note:
The illuminated display flashes with decreasing battery voltage of the system remote control.

1.:Dimming of complete lighting

▲ Brightening and

▼ dimming by pressing and holding the button

2.:Separate dimming of a luminaire group

ID + 1 Selection of luminaire group 1

▲ Brightening and

▼ dimming by pressing and holding the button

ID + 2 Selection of luminaire group 2

▲ Brightening and

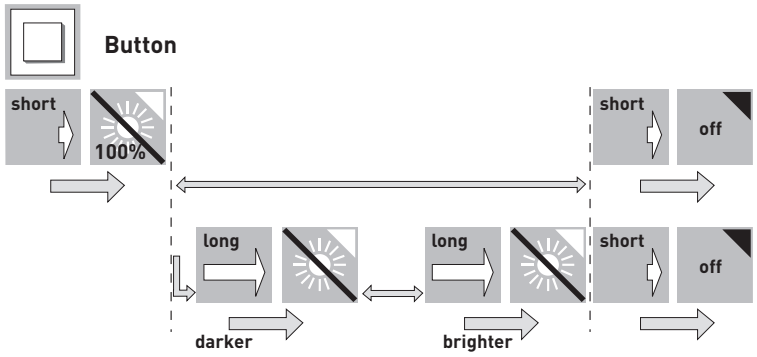
▼ dimming by pressing and holding the button

Note:
Renewed selection of the luminaire group is required prior to each pressing of a dimming button.

Control without daylight-dependent control function

If a controller luminaire is operated without a sensor or if the light sensors are deactivated in all connected sensor units, the lighting system can only be operated manually in uncontrolled operation.

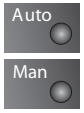
Single-button operation (manual only)**:**



Double click has no effect.

Operation with the system remote control
(Rotary switch position 0)

Switching on or switching over



Uncontrolled operation (switching on at 50%)

Preset lighting scenes (1 - 4), uncontrolled

With the remote control, **dimming the complete lighting** (see page 7) and **separate dimming of two luminaire groups** (see page 8) is possible.

Service instructions

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Safety and installation notes

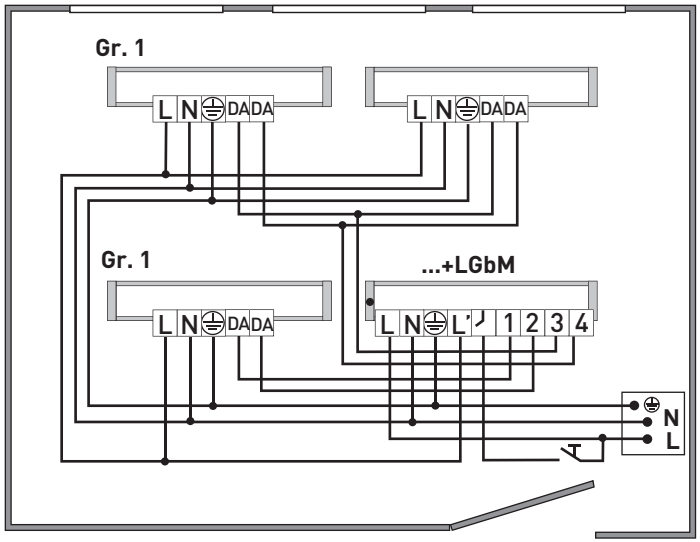
- **Implementation of the service instructions assumes specialist expertise corresponding to completed professional training in the electrical trade!**
- **Never work on luminaires with applied voltage. Hazard - mortal danger!**
- **Observe installation instructions for the luminaires used!**

Commissioning

Control of a luminaire group
(complete room control)

For complete room control all luminaires of the lighting system are automatically controlled as one group. For separate manual dimming via the system remote control, the luminaires can be divided into two groups however by connection to the DALI terminals 1 and 2, and 3 and 4.

Connection example with LIGHTGATEbasic system luminaires



Voltage supply connection
On-site voltage supply feed should be directly to the master luminaire. All further luminaires to be controlled by LIGHTGATEbasic can be connected (to max. 600 VA) to the switched phase (L') of the master luminaire/controller luminaire.

Note:
Connection of the luminaires to the non-switched phase (L) leads to avoidable standby losses, but does not result in functional impairment of the lighting.

DALI connection
Up to 16 luminaires (or 16 ECGs) can be controlled.
A maximum of 8 ballasts can be connected to an interface connection.
DALI addressing is not required.

Note:
- See page 36 for positioning of master luminaires or light sensors.

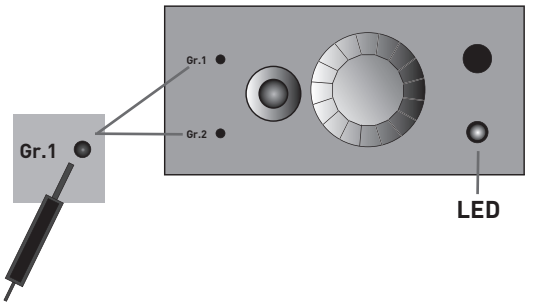
Push button connection
If required, a push button should be connected
(see wiring diagram, page 5)

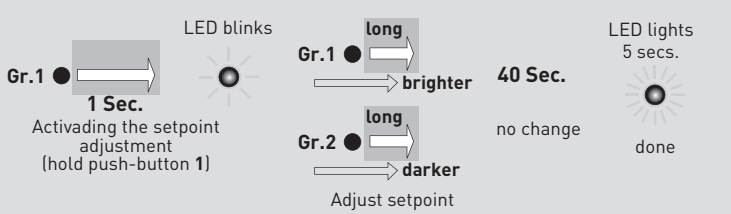
Presence detection
A system remote control is required for setting presence detection (see page 4). Automatic operation is preset, with 15 minutes switch-off delay

Nominal value setting
The nominal value setting can be implemented either with the program functions of the sensor or with the system remote control.

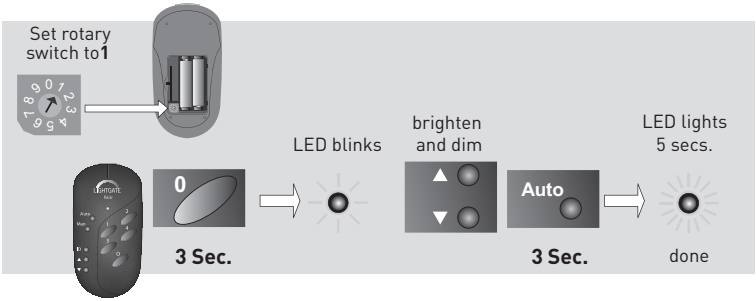
Nominal value setting with LGS-IPL/M sensor

Programming button
(a tool for programming button settings is included with the master luminaire)



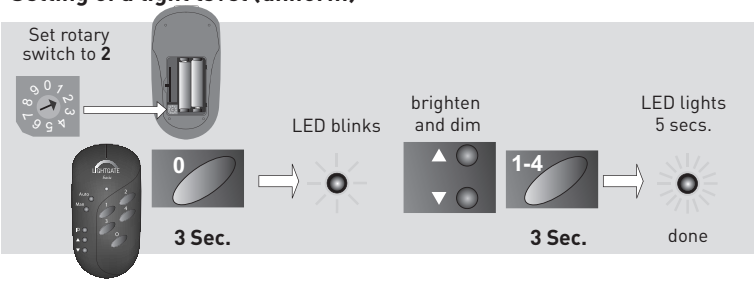


Nominal value setting with the system remote control
(rotary switch position 1)

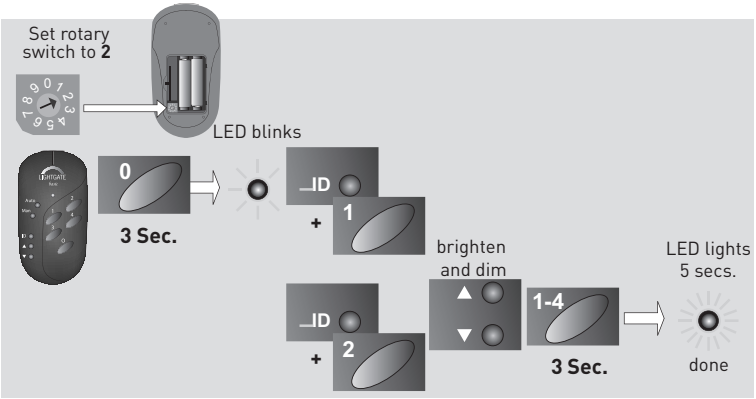


Note:
Nominal value programming is only possible with the sensor connected and with light control activated. Programming is preferably carried out without or with a very low level of daylight.

Setting of a light level (uniform)



Setting of a lighting scene (2 groups are different)

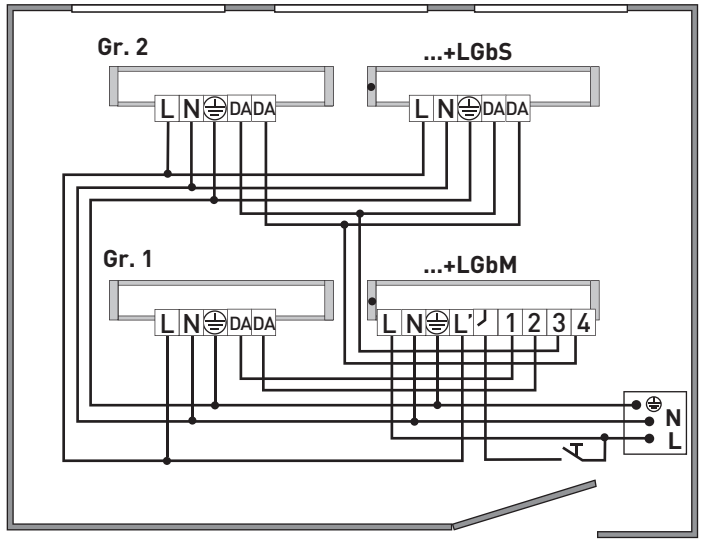


Four lighting levels (lighting scenes) can be saved and called up.

Individual control of two luminaire groups

In rooms having areas with strongly differing daylight supplies, e.g. with deep rooms, two independently controlled luminaire groups can be set up. Two light sensors are required for separate control of the groups. The nominal values are set separately. The controls of the areas dim independently. Daylight-dependent switching off occurs if there is sufficient daylight in the area of group 1. Presence detection is over both areas.

Connection example with LIGHTGATEbasic system luminaires



Connection of voltage supply
On-site voltage supply feed should be directly to the master luminaire. All further luminaires to be controlled by LIGHTGATEbasic can be connected (to max. 600 VA) to the switched phase (L') of the master luminaire/controller luminaire.

Note:
Connection of the luminaires to the non-switched phase (L) leads to avoidable standby losses, but does not result in functional impairment of the lighting.

DALI connection
Up to 16 luminaires (or 16 ECGs) can be controlled. A maximum of 8 ballasts can be connected to an interface connection.
DALI addressing is not required.

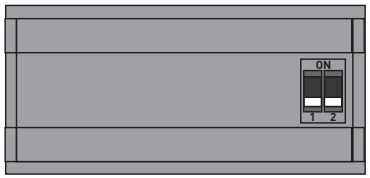
Note:
See page 36 for positioning the master luminaire and sensor luminaire or light sensors.

Push button connection
If necessary, a push button should be connected (see wiring diagram, page 5)

Sensor addressing
All sensors, externally or in master or sensor luminaires, are addressed to sensor address 1 in delivery state.

Addressing is via the DIP switches on the rear of the sensor.

The sensor in the sensor luminaire must be changed to sensor address 2.



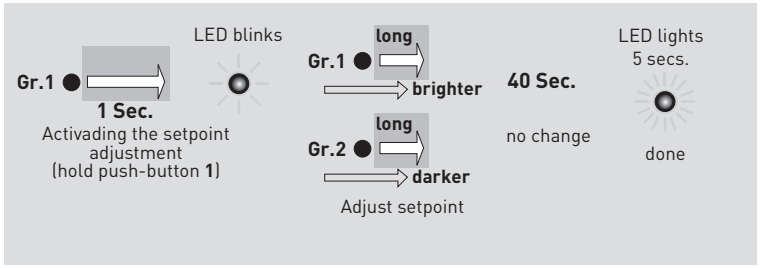
Presence detection
A system remote control is required for setting presence detection (see page 4). Automatic operation is preset, with 15 minutes switch-off delay.

Nominal value setting
The nominal value setting can be implemented either with the program functions of the sensor (see page 38) or with the system remote control.

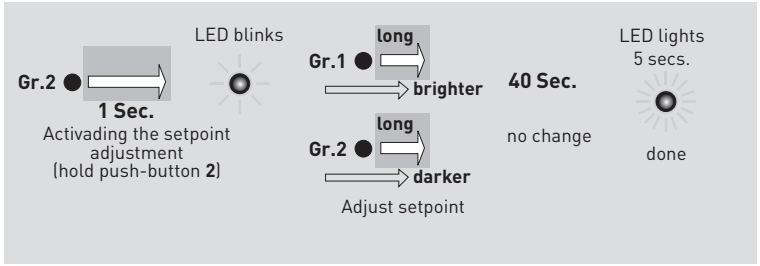
Nominal value setting with LGS-IPL/M sensor

Switch on the lighting.

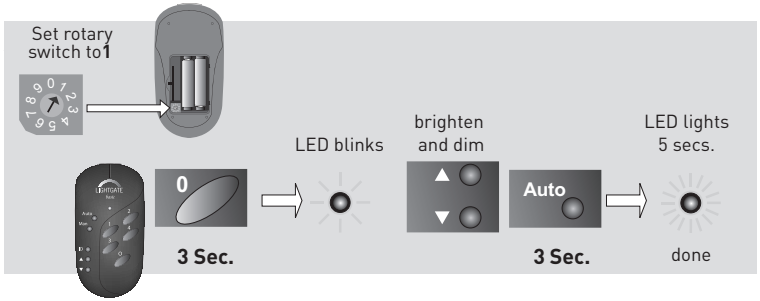
Set the group 1 nominal value as follows



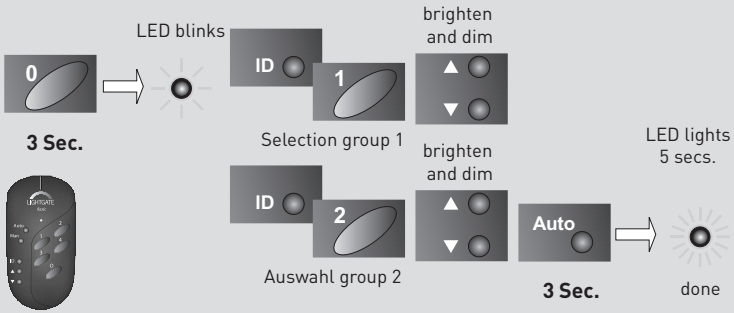
Modify the group 2 nominal value as follows



Nominal value setting with the system remote control
(rotary switch position 1)



B: Separate setting of nominal value for each group



Note:
Nominal value programming is only possible with connected sensor and with light control activated. Programming is preferably carried out without or with a very low level of daylight.

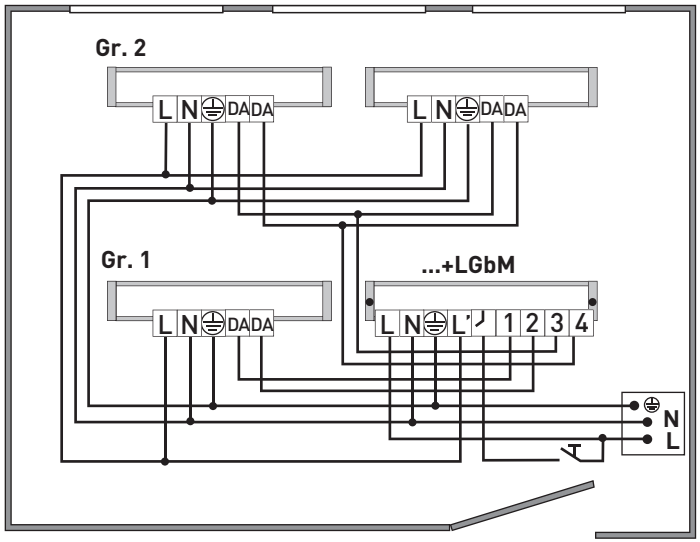
Setting of a light level (uniform)
(see page 18)
Setting of a lighting scene (2 groups are different)
(see page 18)

Offset control with two luminaire groups and one light sensor

For offset control the luminaires of the lighting system are divided into two groups consisting of near to and away from the windows, but controlled only with one sensor according to daylight.
This operating mode can be used in rooms with mid-sized depth in which a second sensor is not required. Group 1 (away from windows) is always controlled by the light sensor. Group 2 (near to windows) is dimmed together with group 1.
With ingress of daylight, less artificial light is needed in the area of group 2 (near to windows). Therefore this group can be operated with less output. The difference (offset) of group 2 to group 1 can be set.
With increasing daylight group 2 dims to a minimum and remains at this level until with sufficient daylight it is switched off together with group 1. With decreasing daylight the offset value is automatically reduced so that without daylight both luminaire groups have the same dimming level.
As specified by LIGHTGATEbasic functionality, the group away from the windows should always be selected as ‚group 1' and the group near to the windows as ‚group 2'.

Note:
With offset control with two luminaire groups, group 1 is the ‚leading group'. Group 2, dependent on group 1, follows on. In individual cases it should be considered whether complete room control or individual control with two light sensors for offset control is preferable.

Connection example with LIGHTGATEbasic system luminaires



Connection of voltage supply
On-site voltage supply feed should be directly to the master luminaire. All further luminaires to be controlled by LIGHTGATEbasic can be connected (to max. 600 VA) to the switched phase (L') of the master luminaire/controller luminaire.

Note:
Connection of the luminaires to the non-switched phase (L) leads to avoidable standby losses, but does not result in functional impairment of the lighting.

DALI connection
Up to 16 luminaires (or 16 ECGs) can be controlled. A maximum of 8 ballasts can be connected to an interface connection. DALI addressing is not required.

Note:
See page 35 for positioning the master luminaire and sensor luminaire or light sensors.

Push button connection
If necessary, a push button should be connected (see page 32)

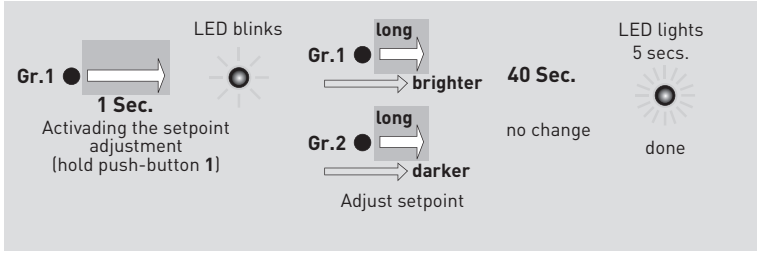
Sensor addressing
All sensors, externally or in master or sensor luminaires, are addressed to sensor address 1 in delivery state (see pages 33-34).

Presence detection
A system remote control is required for setting presence detection (see page 36).
Automatic operation is preset, with 15 minutes switch-off delay.

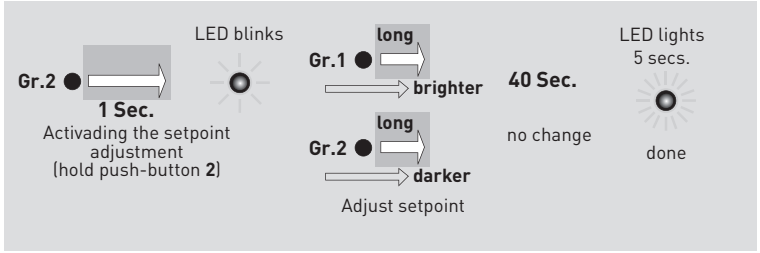
Nominal value setting
The nominal value setting and setting of the offset value can be implemented either with the program functions of the sensor (see page 38) or with the system remote control.

Nominal value setting with LGS-IPL/M sensor
Switch lighting on (controlled, LED off).

Set the group 1 nominal value as follows



Modify the group 2 offset value as follows



Sensor (see page 17)

Setting of nominal value and offset value with the system remote control
Position the rotary switch to 1, and set as described on page 22.

Note:
Nominal value programming is only possible with the sensor connected and with light control activated. Programming is carried out preferably without or with a very low level of daylight.

Setting of a light level (uniform)
(see page 18)

Setting of a lighting scene (2 groups are different)
(see page 18)

Troubleshooting

Error: Luminaires do not switch on when connected to mains power supply

	Test procedure	Negative result
1	Check the mains supply cable	Luminaires (including master luminaire) do not switch on despite functioning cable. → Replace control device

Error: Constant light control does not function

Step 1: DALI connection correct?

	Test procedure	Positive result	Negative result
1	Switch on and then dim with the push button.	Luminaires dim down. → 2	Check push button line, check control line, replace control device
alternatively	Switch on and then dim with the remote control.	Luminaires dim down. → 3	→ 2, Check control line.
2	With individual group control of 2 luminaire groups or offset control: Switch on and then manually dim the two DALI groups separately with the remote control (see operating instructions).	Luminaires away from windows dim as group 1, luminaires near windows as group 2.	Correct grouping via control lines (see service instructions).

Step 2: Sensor connection okay?

	Test procedure	Positive result	Negative result
1	Switch off and on again via the mains switch.	LED in the sensor unit lights up for 3 seconds.	Replace sensor data line, replace sensor, replace control device
alternatively	Switch on and then dim with push button or remote control	→ 3	

Step 3: Light control function active?

	Test procedure	Positive result	Negative result
1	Keep opening of the light sensor closed.	Light brightens, noticed with a few seconds → 4 → 3.2	→ 3.2
2	Aim a torch directly onto the light sensor	Light dims, noticed with a few seconds → 4	(→ 4, nominal value set extremely high) → 5

* with daylight-dependent control with two light sensors (see page 19), luminaires in the surrounding area of the corresponding sensor must dim.

Step 4: Nominal value is not correct.

	Correction	Positive test	Negative
1	Set the nominal value according to the service instructions (without other light source/influence of daylight)	Measurement of stabilisation of illuminance with other light source/ influence of daylight → finished	→ 6

Step 5: Sensor addressing correct?

	Test procedure	Positive result	Negative result
1	Remove the sensor or sensors and check the DIP switch position.	With complete room or offset control: light sensor to address 1, additional presence sensor to address 3 if required → 7 With individual control of two luminaire groups: light sensor in the area of group 1, light sensor in the area of group 2 to address 2 → 7	Carry out correction, then → 3.2

See service instructions or contact TRILUX Technical Support.

Please contact TRILUX Technical Support.

** with daylight-dependent control with two light sensors (see page 19) it must be observed that the luminaires in the area of each sensor must dim. If necessary, addressing of the sensors (page 34) or arrangement of master and sensor luminaire and grouping of luminaires via the DALI connection (page 19) should be corrected.

Step 6: Sensor assignment correct?

See service instructions or contact TRILUX Technical Support.

Step 7: If after complete implementation of steps 1 to 3 and 5 the light control does not function, please contact the Technical Support of the TRILUX office in your locality.

Error: Presence detection does not function

Step 1: Sensor connection okay?

	Test procedure	Positive result	Negative result
1	Switch off and on again via the mains switch.	LED in the sensor unit lights up for 3 seconds → 2	LED in the sensor unit does not light up → Check sensor data line → Replace sensor → Replace control device
alternatively	Switch on and then dim with push button or remote control.	LED in the sensor unit lights up permanently → 2	

Step 2: Set the operating mode and switch-off delay with the system remote control

see page 38

please note:

- With ‚Automatic' operating mode, inverse switch-off delay occurs for switching on again. After manually switching off with the push button or remote control, no movement must be detected for the process of the set delay time so that automatic mode is active again.
- Due to reasons of energy saving and intuitive operation, it is recommended to select ‚semi-automatic' operation if an operating button is available in the entrance area.
- The switch-off delay should not be selected too briefly in order to bridge short phases of low movement activity. In many cases, a switch-off delay of 15 minutes is recommended.

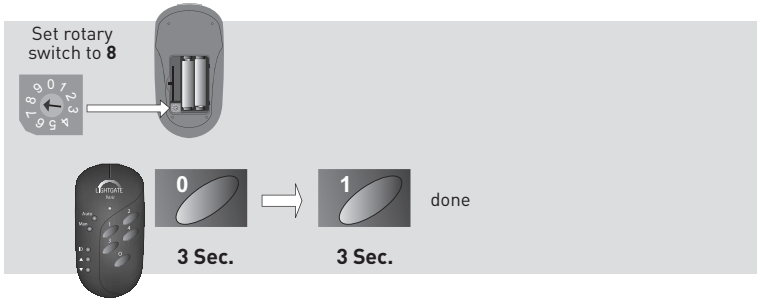
Step 3: Assignment of sensor correct?

The sensor (sensors) should be arranged so that movements of people in the room are reliably detected (see page 37 for detection range). In case of queries please contact the Technical Support of the TRILUX office in your locality.

System reset

(Rotary switch position 8)

The system can be reset to factory settings with the system reset.



System features

Master luminaires, controller luminaires and sensor luminaires

Master luminaires are luminaires with an integrated control device and sensor. The LGS-IPL/M sensor unit of the master luminaire has a light sensor, a presence sensor, two programming buttons, a receiver for the infrared remote control and two DIP switches for sensor addressing.
The sensor unit is addressed to sensor address 1 in its state of delivery.
Nominal value setting can be simply carried out via the programming buttons on the sensor.

Controller luminaires are luminaires with an integrated control device. Mount the LGS-IPL/M sensor externally with use of controller luminaires.

Sensor luminaires are luminaires with integrated LGS-IPL/M sensor. The sensor address must be set according to the required function! The factory setting is sensor address 1 (see page 33). The luminaires are used for expanding presence detection or for independent control of a second area.

DALI connection

The LIGHTGATEbasic lighting management system uses the internationally standardised digital DALI protocol (Digital Addressable Lighting Interface) for control of the lighting system. In the luminaires to be controlled, dimmable lamp ballasts with DALI interfaces are therefore required. The DALI control lines must be mains voltage-stable. These can be routed with the supply voltage in a common sheathed cable. Polarity of interface connection must not be observed.

When the lighting is switched off via the DALI interface, control device and ballasts remain operatively connected to the supply voltage. To minimise standby energy consumption, the LIGHTGATEbasic system has a switch output to which the ballasts to be controlled by the system should be connected. The switched phase is available in the master luminaire/controller luminaire at the L' terminal for through-wiring purposes.

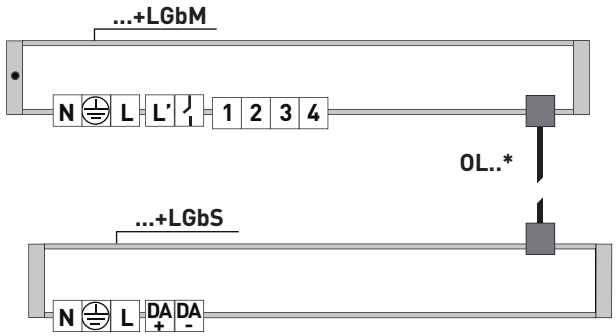
If standby loss of the control device is also to be avoided, a mains switch should be used as the operating element and the complete lighting system should be disconnected from the electricity supply when not in use. All preset system settings are maintained. Switching on the supply voltage implements energy-saving, daylight-dependent controlled operation of the lighting.

Broadcast operation

LIGHTGATEbasic is only designed for broadcast operation of DALI ballasts. In this operating mode no individual addressing of the DALI ballasts is necessary. A maximum of 2 groups can be differentiated. For the differentiation of two luminaire groups these are connected via separate control lines to the luminaire terminals 1 and 2, or 3 and 4, of both DALI interfaces.
Each group can consist of a maximum of 8 DALI ballasts. Already assigned DALI addresses of individual ballasts remain unaffected.
If only one luminaire group is to be set up, a maximum of 16 ballasts can be divided and connected to both control lines (see page 16).

Push button connection
Master and controller luminaires with integral LIGHTGATEbasic have a connection terminal for an operating button. The operating button must be implemented with mains voltage stability. Connection is via the voltage supply phase.

Sensor connection
LIGHTGATEbasic master luminaires have a pre-connected sensor unit integrated in the luminaire. If required, a further sensor unit can be connected to the master luminaire via a free RJ10 connection (see diagram).

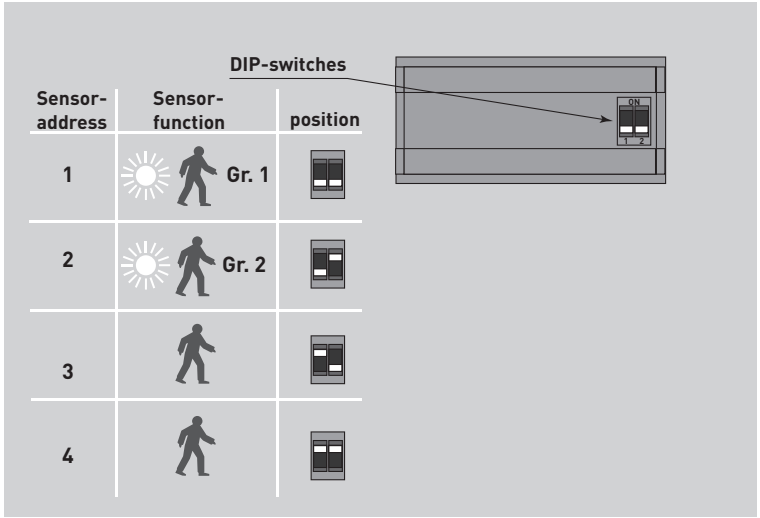


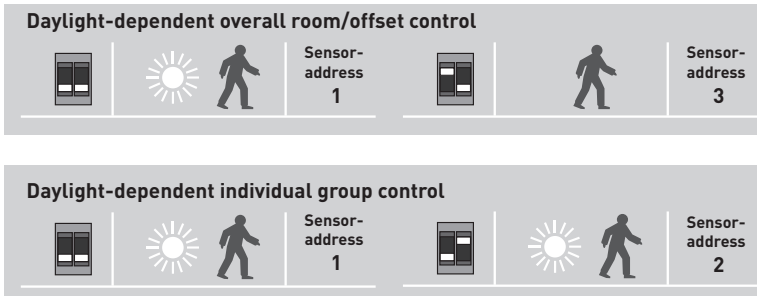
Connection of sensor units to controller luminaires is as described above. A maximum of two sensor units can be connected in parallel via an 0MD2 two-way distributor. Correct addressing of the sensors must be ensured here, as described in the sensor settings section. The table on page 39 specifies technical data for the sensor connection.

Sensor functions

Sensor units of the LIGHTGATEbasic system are for measurement of light and presence detection. Several settings for these functions are implemented directly at the sensor. Setting for nominal values or offset values for daylight-dependent control are described in the first sections of these service instructions.

Sensor assignment
The two DIP switches on the rear of the sensor unit enable addressing of the sensor unit, the sensor's light measurement to be activated or deactivated, and assignment to one of the luminaire groups 1 and 2. Each of the four possible switch positions correspond to an individual sensor address.
It must be observed that for a lighting system with two sensors the set addresses are different, as otherwise system malfunctioning results. The table displays the possible DIP switch positions for the sensor to function as a light sensor and presence detector or only as a presence detector, e.g. for expansion of the detection range.





The possible DIP switch positions are directly specified for cases of **daylight-dependent complete room / offset control** and also **daylight-dependent individual group control**.
If the lighting system is to fundamentally remain in uncontrolled operation, then the sensor addresses 3 and 4 should be set.

Daylight-dependent control

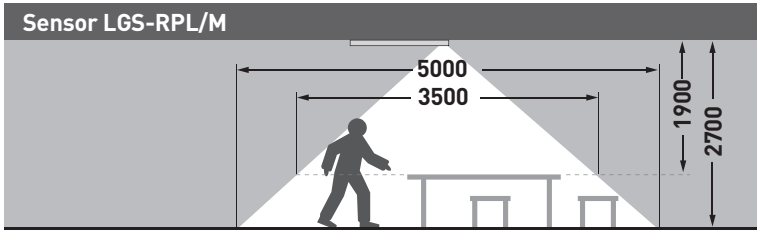
Functionality of daylight-dependent control
The light sensor integrated in the sensor evaluates brightness of a surface positioned below the sensor. The aperture angle of the sensor for light detection is approx. 20°. The brightness of the evaluated surface is derived from the reflection of a blend of artificial light and daylight. The resulting measured value is compared to the nominal value programmed by the user. If a difference between nominal and measured value exists, artificial light is correspondingly adjusted so that illuminance remains practically constant. Artificial light is switched off if daylight exceeds the nominal value.
Dimming and switching functions are delayed in order to avoid disturbing fluctuations of artificial lighting resulting from brief changes in daylight (e.g. from gaps in clouds); the artificial light is only then switched off when the nominal illuminance value is exceeded by approximately 25% and when this state remains for 15 minutes. The lighting system is switched on again immediately after the nominal value is fallen below (only with automatic operation of presence detection).

Positioning of light sensors
The light sensors must be fundamentally positioned so that they are able to detect the working plane to be illuminated. They should be positioned above a diffusely reflective, not completely dark surface that enables a comparison of the actual value with the nominal value. For lighting systems with individual control of two luminaire groups it must also be ensured that the sensor is in the area of the luminaires of the group it controls. Unsuitable positioning may lead to mutual influencing of control groups and therefore to limiting of control functionality. With offset control with a functional area in the depth of the room, the sensor should be installed in the area of luminaire group 1 away from the windows.

Presence detection

Functionality of presence detection
Presence detection is based upon a passive infrared sensor that detects changes of thermal radiation in the detection range, e.g. when people move. When positioning the sensor it must therefore be ensured that no shadowing is in the detection area that would limit the functionality of the sensor. It must also be considered that air currents caused by thermal sources other than by people may lead to erroneous switching, e.g. with open windows, heating systems, fax machines etc.

Detection range
Presence detection of the **LGS-IPL/M** sensor is optimised for mounting to ceiling heights of 2.7 metres (e.g. for office applications). The detection range in such cases has a diameter of 5 m. Depending on room use, in many applications the detection range can be expanded by parallel switching.



Setting of presence detection
Specification of the switch-off delay time is via the system remote control.
The operating mode for presence detection is also set in this way.
The following operating modes exist:

- Automatic operation
The lighting system is automatically switched on when no person is detected during a settable time period. Switching on of the lighting installation with movement detection is automatic under the precondition that no sufficient daylight is available. Switching on and off is effective for all luminaire groups.

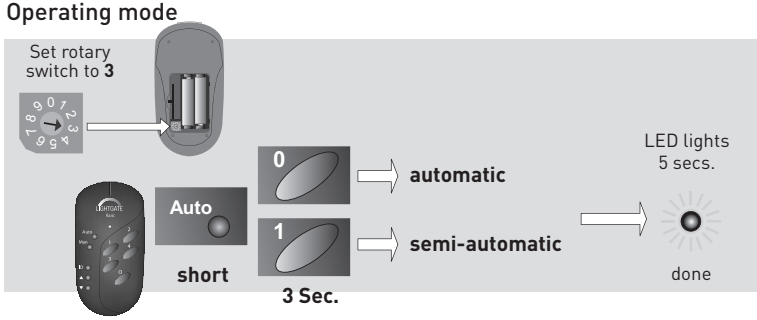
Note:
After switching off with the push button, automatic switch-on is only active again after no presence has been detected for at least the set time period (continuous).

- Semi-automatic operation
The lighting system is automatically switched off when no person is detected during a settable time period. Switching off is effective for all luminaire groups. No automatic switching on occurs with movement detection; the lighting must be manually switched on. With sufficient daylight the lighting is dimmed accordingly, and is switched off again when the daylight-dependent switch-off point is reached.

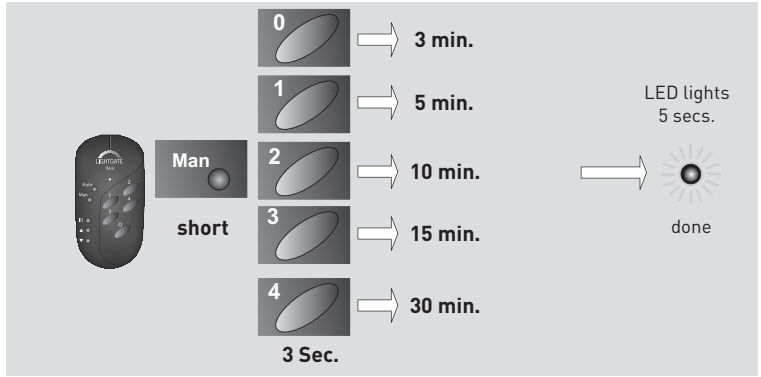
Note:
Automatic switching on or switching on again of the lighting, even after switching off via the daylight-dependent control, occurs fundamentally only via automatic presence detection operation.

- Setting of operating mode and switch-off delay for presence detection (rotary switch position 3)

Operating mode

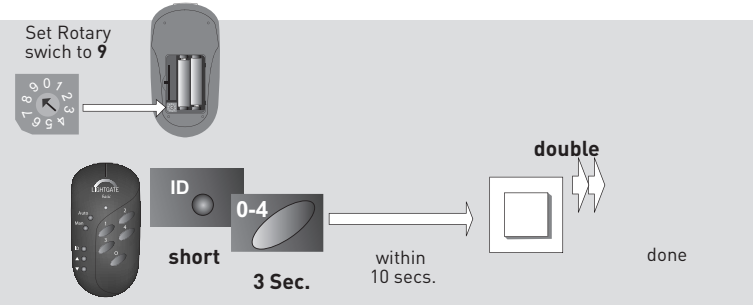


Switch-off delay



Addressing of the system remote control
(rotary switch position 9)

By coding of remote controls several LIGHTGATEbasic systems can be used in a room and operated independently of each other, for example for several individual luminaires in an open-plan office.



Up to 5 different addresses (0-4) can be assigned.
The factory presetting is address 1.

Technical data

Controller	
Supply voltage	220-240 V 0/50-60 Hz
Switching output	600 VA
Standby power of system	
- without sensor	< 0.4 W
- with one sensor	< 0.5 W
Approval mark	ENEC
Cable lengths	
- Controller-push button	50 m
- Controller sensor	25 m
- at the sensor	1.5 m
- Controller-ECG	max. 100 m (min. 1.5 mm²)
DALI interfaces	2 interfaces in broadcast operation, max. 8 DALI ballasts per interface
Push button input	mains voltage
- Function	ON/OFF/DIM
Sensor connection	via data line with RJ10 modular-plug
- Supply voltage	9 V DC (safety extra-low voltage)
- Number of sensors	Connection of max. 2 sensors via parallel switching
Sensor functions	Selection of sensor functions- is via DIP switches - Light sensor + presence detector - Presence detector
Light sensor sensitivity	2 lx...400 lx, measured at the sensor
Presence detector	
- Detection range	ø 5 m at mounting height of 2.7 m
Conformity to standards	
- EN 61347-1	
- EN 61347-11	
- EN 55015	
- EN 61547	

System remote control

Supply voltage	3 V 2 batteries, type AAA/LR03
Range	approx. 5 m
Data transmission	Infrared, 40 kHz
Ambient temperature t_a	0...+40 °C
Order number	10076687

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