# B.E.G. LUXOMAT® PD4-M-DUO-DALI/DSI

## Installation and Operating Instruction for B.E.G.- Occupancy detectors PD4-M-DUO-DALI/DSI-FC
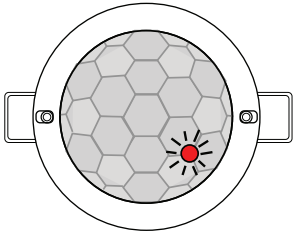
### 1a. Mounting preparations

Work on the 230 V mains supply may only be carried out by qualified professionals or by instructed persons under the direction and supervision of qualified skilled electrical personnel in accordance with electrotechnical regulations.

Disconnect supply before installing!

When in Master/Slave mode of operation, the Master-appliance must always be installed at the location where there is least daylight.

### 1b. Features

* For connection of up to 25 lamps for every DALI-output
* Suitable for dimmable electronic ballasts and control modules
* Two DALI outputs
* Constant light control
* Manual switching/dimming
* Semi or completely automatic operation
* Luminance (brightness) set point and switch-off delay time for light adjustable
* Sensor and power sections in one housing
* Infrared remote control

### 2a. Installation of the LUXOMAT® PD4-M-DUO-DALI/DSI-FC



68 mm

A circular opening of diameter 68 mm must be produced in the ceiling. Having connected up the cables in accordance with regulations, the detector is inserted into the opening as shown in the drawing above and fixed into position with the assistance of the spring clips.
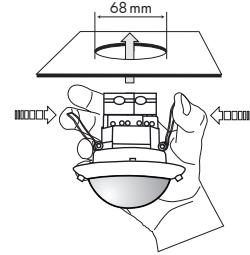
### 2b. Self test cycle



The product enters an initial 60-second self-test cycle, when the supply is first connected. The occupancy detector is ready for operation.

### 3. Putting into operation / settings

**Follow-up time for light control**
The time can be set infinitely variably at between 1 and 30 minutes.
Symbol **TEST**: Test mode
Every movement switches on the light for a period of 1 second, switching it off for a period of 2 seconds after that regardless of the level of brightness.

**Twilight-switch for light control**
The switch-on value for the light can be set at between 10 and 2000 Lux. Using the rotary control, the luminance set points can be set as desired.
Symbol ☾: Night-time operation
Symbol ☼: Daytime/Night-time operation

**R2 Orientation lighting** (fixed to 20%)
The orientation lighting can be set infinitely variably at between 5 and 60 minutes resp. "ON" for permanent orientation lighting or "OFF" for no orientation lighting.

**Pulse spacing PD-Slave**
2 or 9 seconds can be set for the pause between 2 pulses sent to the master. The setting can be made with activated (✳) or deactivated (○) LED indicator.
For devices with a separate slave input, 2 sec. can be set.

### 4. Settings carried out using remote control (optional)

Remote control LUXOMAT® IR-PD-DALI

**1. Check Battery:**
Open battery compartment by pressing the plastic springs together and removing the battery-holder.

**2. IMPORTANT**
Please pay attention, that the setting is Potentiometer 1 at "TEST" and Potentiometer 2 **not** at "SUN". All values which have been programmed using the remote control will be deleted in the event of power failure in the position "TEST/ SUN". Please switch Potentiometer 2 over to "MOON" or any other value.

**Caution:**
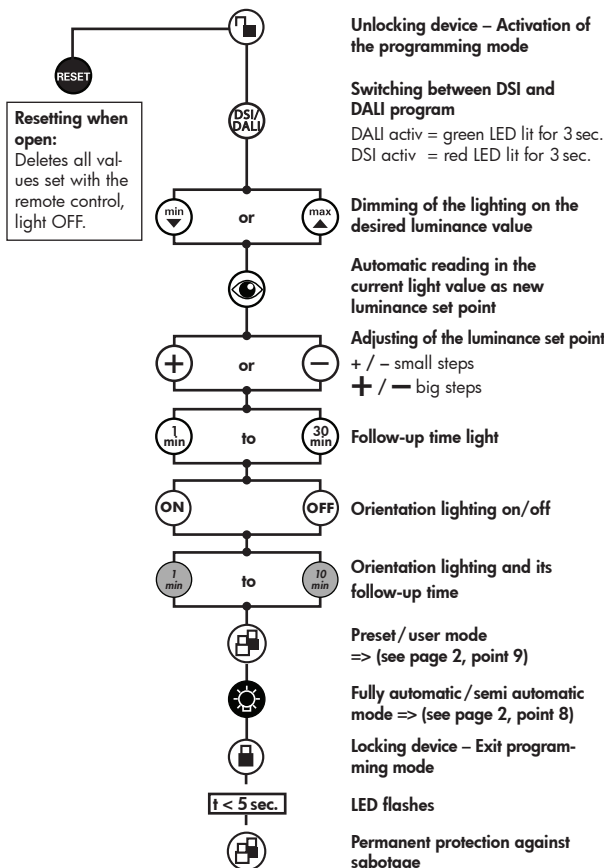Settings with remote control supersede the settings of the potentiometers.

### 5. Option:



IR-PD-DALI



Wall bracket for remote control IR-PD-DALI

### 6. Settings by remote control in opened state

**Unlocking device – Activation of the programming mode**

**Resetting when open:**
Deletes all values set with the remote control, light OFF.

**Switching between DSI and DALI program**
DALI activ = green LED lit for 3 sec.
DSI activ = red LED lit for 3 sec.

min ▼ **or** max ▲ **Dimming of the lighting on the desired luminance value**

**Automatic reading in the current light value as new luminance set point**

(+) **or** (−) **Adjusting of the luminance set point**
+ / − small steps
**+** / **−** big steps

1 min **to** 30 min **Follow-up time light**

ON OFF **Orientation lighting on/off**

1 min **to** 10 min **Orientation lighting and its follow-up time**

**Preset/user mode**
=> (see page 2, point 9)

**Fully automatic/semi automatic mode** => (see page 2, point 8)

**Locking device – Exit programming mode**

t < 5 sec. **LED flashes**

**Permanent protection against sabotage**

### 7. Key functions in closed state

**Lock device**

**TEST Test mode**
Reset to deactivate

**Resetting when closed**
The lighting relay is switched off, i.e. opened and the follow-up times reset.

**Permanent protection against sabotage**
This function blocks the unit permanently (green LED is illuminated). This operating mode can only be activated during the period of 5 seconds after pressing the "lock" button. This status will only permit actuating the function "Light on/Light off".

t < 5 sec.

The procedure for leaving this mode is as follows:
1. Switch off the current
2. Apply current for 31 – 59 seconds
3. Switch of the current again
4. Apply current
5. Open detector

**Light on/off when closed**
=> (see page 2, point 10)
The light will remain switched on/off for as long as movements are detected in the areas of coverage. Once the last movement has been detected, the light will remain on for the duration of the follow-up time as per setting.
The appliance will then return independently to the mode selected (Fully or Semi-automatic).

## 8. Fully / Semi automatic mode

The system switches over when the "Light" push-button is open (see Remote control functions, page 1).
Each time a pushbutton is pressed, the current operating mode is indicated by the red LED:
Lit for 3 sec. = Fully automatic mode
Flashing for 3 sec. = Semi-automatic mode

**Fully automatic operation**
In this operating mode, the lighting switches automatically on and off for increased comfort, depending on presence and brightness.

**Semiautomatic operation**
**(Semiautomatic can only be activated via the remote control!)**
In this operating condition, in order to gain increased savings, the lighting is energized only after being manually switched on. Switch-off takes place automatically.
The semiautomatic mode basically behaves like the fully automatic one. However, the difference is that switching-on must always be carried out manually!

As many (closer-contact) buttons as desired can be wired in parallel on the "S" button input (ON/OFF).

## 9. Manual Dimming – Preset / User
(for IR-PD-DALI functions see page 1)

You can dim manually by pressing the pushbutton for a long time (> 2 sec). When the button is released, the current dimming value is retained. Upon renewed dimming, the dimming direction is reversed.

**PRESET** – the luminance set point is set during start-up operation by the installer and remains unchanged. The luminance set-point configured through manual dimming is only applied for the time being.
Caution:
The constant light regulation is now deactivated!
The currently set artificial light is retained independent of the ambient/daylight brightness!
After switching off and then back on, the originally set luminance set-point is reset = constant light regulation is activated.

**USER – can only be activated via the remote control!**
The luminance set-point is changed upon each manual dimming and re-adjusted by the user (Conformation through relay clicking!)
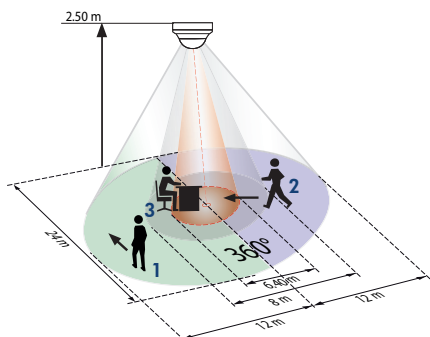The constant light regulation remains activated!

## 10. Manual Switching

You can switch the lighting on and off manually by pressing the pushbutton for a short time. It will stay on or off as long as people are detected plus the configured follow up time.
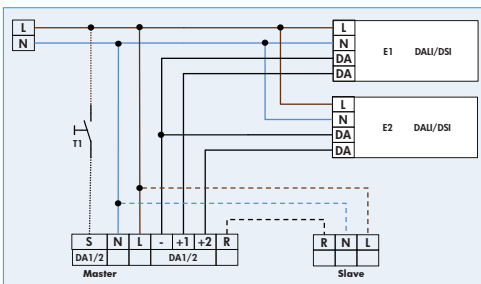
## 11. Range of Coverage

**PD4-M-DUO-DALI/DSI**



1 ▨ Walking across
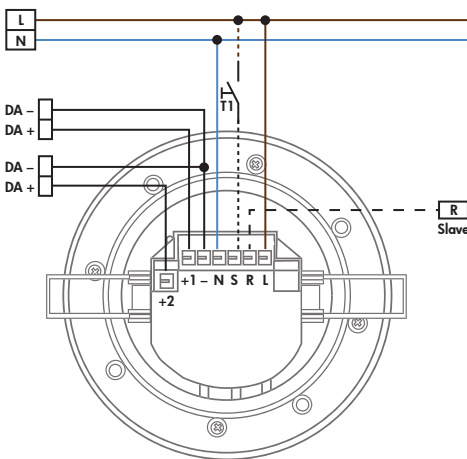2 ▨ Walking towards
3 ▨ Seated

## 12. Wiring diagram

**Standard mode with master DUO DALI/DSI occupancy detectors**



**optional**
T1 = NO button for semi-automatic mode
Slave for enlargement of detection area

## 13. PD4-M-DUO-DALI/DSI-FC – Connections



## 14. Technical data PD4-M-DUO-DALI/DSI

Sensor and power supply in one case
**Power supply:** 230 V~ ±10 %
**Power consumption:** < 1 W
**Ambient temperature:** -25°C – +50°C
**Degree of protection/class:** IP20 / II
**Settings:** locally and by remote control with IR-PD-DALI
**Light values - IR-PD-DALI:** 50 - 1500 Lux
**Extension of the detection area:** with Slaves
**Area of coverage:** circular 360°
**Range of coverage Ø H 2.50 m / T = 18°C:**
seated 6.40 m / tangential 24 m / radial 8 m
**Recommended height for mounting:** 2 - 3 m
**Light measurement:** Mixed light, daylight + artificial light
**Lux values-Potentiometer:** 10 - 2000 Lux
**• DALI/DSI**
digital BUS control wire, 2-core, no polarity (broadcast only)
**Max. no. of series-connected electronic ballasts:** up to 50
**Time-settings:** 1 - 30 min. / Test
**Dimensions H x Ø:** 101 x 97 mm
**Visible part false ceiling mounted:** 40 x 97 mm

**Technical data PD4-Slave**
**Power supply:** 230 V~ ±10 %
**Impulse output:** Optocoupler max. 2 W
**Impulse duration:** 2 sec. or 9 sec.
**Dimensions:** see above

C€ **Declaration of Conformity:** The product complies with the low voltage recommendation 2006/95/EC and the EMV recommendation 2004/108/EC.

**WE RECOMMEND THAT BEFORE DIMMING OF THE CONNECTED LIGHTS A 100 h BURN IN (T5 TUBES OR 80 HOURS FOR T8 TUBES) FUNCTION TAKES PLACE.**

**THE LIFESPAN OF THE LAMPS CAN BE REDUCED IF THE BURN IN DOES NOT TAKE PLACE.**

## 15. Article / Part nr. / Accessory

| Typ | FC |
|---|---|
| PD4-M-DUO-DALI/DSI-Master | 92276 |
| PD4-Slave | 92254 |

**LUXOMAT® Remote control:**
IR-PD-DALI (incl. wall bracket) 92094
**Accessory:**
BSK Ball basket guard 92199
Wall bracket for remote control as replacement 92100

## 16. LED-functional indicators, fault-finding

The functional indicators in the case of the **LUXOMAT®** PD4-M-DUO-DALI/DSI (red and green LED's)

**Red LED indicating self-checking mode (over a period of 60 seconds following mains'-supply lock-on)**
*Flashing at intervals of 1 second*
EEPROM/memory empty

*Flashing rapidly*
EEPROM/memory contains information

**Red LED as an indicator of status**
*Flashing irregularly*
Movements are detected within the area of coverage

*Flashing regularly*
Detector identifies bright, light off
(dependent upon operating mode)

*Not illuminated*
Detector identifies dark, light on
(dependent upon operating mode)

*Flashing extremely rapidly*
Too bright / Too dark / Undefined

**Red LED as an acknowledgement of receipt for commands from the remote control**
*Illuminated for 2 seconds*
Signal validly received

*Illuminated for 0.5 seconds*
Not-accepted command, detector blocked

*Flashing extremely rapidly*
Not-accepted command, occurs, for example, when an attempt is made to input twilight-value are too bright or too dark

**Green LED as an acknowledgement of receipt for commands from the remote control**
*Lights up for 3 seconds*
Semi automatic or user signal correctly received

**Green LED as an indicator of status (only for status "Permanent protection against sabotage")**
*Flashing irregularly*
Movement are detected within the area of coverage

*Flashing regularly*
Detector identifies bright, light off
(dependent upon operating mode)

*Not illuminated*
Detector identifies dark, light on
(dependent upon operating mode)

*Iluminated for 2 seconds*
Signal validly received
(dependent upon operating mode)

**B.E.G.**