B.E.G. LUXOMAT® PD9-M-DALI/DSI (-GH)

Installation and Operating Instruction for **B.E.G.** - Occupancy detector PD9-M-DALI/DSI (-GH)-FC

1. Product information

- Mini-occupancy detector for daylight-dependent lighting control
- Special version for installation into ceilings or directly built into light fittings
- DALI / DSI interface for controlling digitally dimmable electronic ballasts as a group
- Switching between DSI and DALI program by remote control
- Extension of the detection area by slave devices is possible
- Other functions adjustable by remote control (optional)
- Manual switching and dimming via pushbutton possible
- Orientation light function

2. Operation

The presence detector controls the light automatically according to people present (movements) and the ambient brightness.

The integrated light sensor constantly measures the ambient light and compares it with the set value brightness on the detector. If the ambient light is sufficient, lighting will not be switched.
If the ambient light level is below the set value brightness, a movement activates the lighting in the room.

The detector switches the light off despite of a person being present if there is enough natural light for 5 min or if no movement is detected for one follow-up time.

3. Safety information

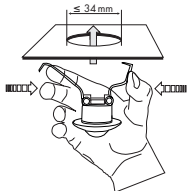
⚠ **Work on the 110-240 V mains supply may only be carried out by qualified professionals or by instructed persons under the direction and supervision of qualified skilled electrical personnel in accordance with electrotechnical regulations.**

⚠ **Disconnect supply before installing!**

⚠ **This device is not suitable for disconnection.**

4. Mounting

The detector has been designed and developed specifically for installation in suspended ceilings.



A circular opening of diameter min. 34mm must be produced in the ceiling.

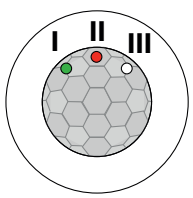
Having connected the cables in accordance with the regulations, connect the power supply via the RJ11 plug. Therefore, open the power supply with the help of the screws and close it afterwards.
After that, put the power supply through the opening in the ceiling and mount the sensor onto the ceiling according to figure.

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

5. Self test cycle/Startup behavior

The product enters an initial 60-second self-test cycle, when the supply is first connected. During this time the device does not respond to movement and stays on.

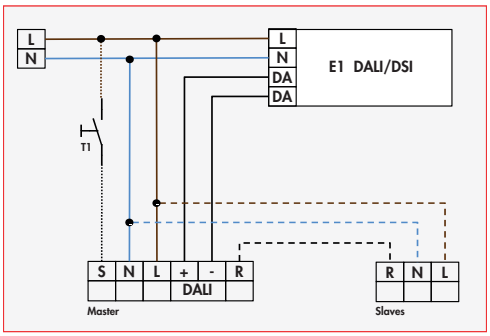
6. Position LEDs



LED I green
LED II red
LED III white

7. Wiring diagram

Standard mode with Master/Slave

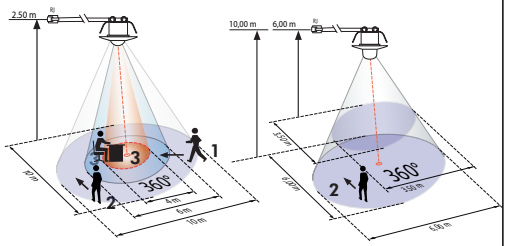


⚠ Connected Slave devices must have the same phase as the Master device.

8. Manual switching and dimming

By pressing the push button, the phase can be given to the S terminal.
To turn on or off the light, press the push button briefly. The light will remain on or off, as long as people are detected plus the follow-up time.
With a long press of the push button the light will be dimmed manually. When releasing the button, the current brightness value is retained.
With renewed long press of the push button, the dimming direction is reversed.

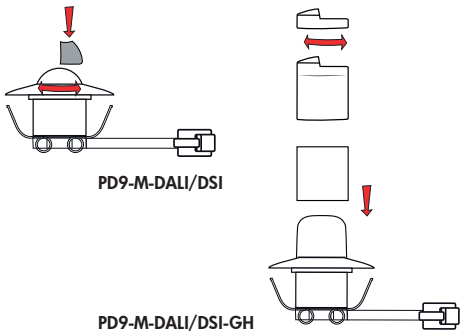
9. Range of Coverage



PD9-M-DALI/DSI **PD9-M-DALI/DSI-GH**

1 Walking across
2 Walking towards
3 Seated

10. Exclude sources of interference



PD9-M-DALI/DSI

PD9-M-DALI/DSI-GH

In case the sensing area of the **LUXOMAT®** PD9-M-DALI/DSI-(GH) is too large ou areas are being covered that should not be monitored, the range can be reduced ou limited through use of the enclosed masking clips.

11. Article / Part nr. / Accessory

Type	FC
PD9-M-DALI/DSI	92920
PD9-M-DALI/DSI-GH	92938

LUXOMAT® Remote control:

IR-PD-DALI-E (incl. wall bracket) - standard remote control	92122
IR-PD-DALI (incl. wall bracket)	92094
IR-PD-DALI-Mini	92112
IR-PD-DALI-LD (incl. wall bracket)	92652
IR-RC-Adapter with Smartphone-App	92726

Accessory:

Wire basket BSK	92199
Wall bracket for remote control as replacement	92100
Coverring for PD9 (Ø 36 mm) white/ silver/ anthracite	92238/ 92237/ 92235
Covering for PD9 (Ø 45 mm) white/ silver	92327/ 92346

12. Technical data

Power supply: 110-240VAC, 50/60 Hz
Power consumption: ca. 1W
Ambient temperature: -25°C à +50°C
Degree of protection/class: IP20 / II
DALI/DSI max.Anzahl
Electronic ballasts: up à 50 (Broadcast)
Range of coverage PD9-M-DALI/DSI Ø H 2,5 m / T = 18°C:
seated 4,00 m / tangential 10 m / radial 6 m
Range of coverage PD9-M-DALI/DSI-GH Ø H 9 m / T = 18°C:
tangential 6 m
Area of coverage: circular, 360°
Recommended height for mounting:
PD9-M-DALI/DSI: 2 - 3 m
PD9-M-DALI/DSI-GH: 9 m
Dimensions H x Ø [mm]

PD9-M-DALI/DSI-FC	H 28 x Ø 45 mm
PD9-M-DALI/DSI-GH-DE	H 40 x Ø 45 mm
Power supply	L165 x W 24 x H 24mm

Visible part when built into ceiling:

PD9-M-DALI/DSI-FC	H 12 x Ø 45 mm
PD9-M-DALI/DSI-GH-DE	H 24 x Ø 45 mm

CE Declaration of conformity

This product respects the directives concerning
1. electromagnetic compatibility (2004/108/EU)
2. low voltage (2006/95/EU)
3. restriction of the use of certain hazardous substances in electrical and electronic equipment (2011/65/EU)

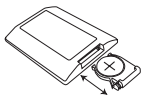
13. LED-functional indicators

LED function indicators		
Process	**Standard mode**	**Double-locked**
Initialisation time unprogrammed	Red flashes	Green flashes
Initialisation time programmed	Red flashes quickly	Green flashes quickly
Motion detection	Red flashes on each detected movement	Green flashes on each detected movement
Too bright detected	Red flashes 2x each second	Green flashes 2x each second
Too bright / too dark / undefined in opened state	Red flashes very quickly	Green flashes very quickly
Switching DALI/DSI DSI active	Red shines 3 sec.	
Switching DALI/DSI DALI active	Green shines 3 sec.	
Switching HA/VA VA active	white shines permanently	
Switching Preset/User Preset active	Red shines 3 sec.	
Switching Preset/User Preset active	Green shines 3 sec.	
IR signal valid received	red and white shines 3 s	
IR signal invalid received	Red shines 0,5 s	
100 h-function activ	red / green flash alternately	red / green flash alternately
Light measurement runs	green flashes 1x in 10 s	green flashes 1x in 10 s

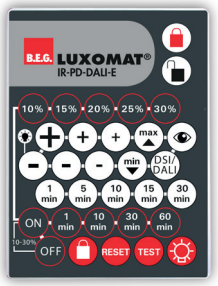
14. Settings carried out using remote control (optional)

⚠ Settings with remote control override the potentiometer and DIP settings.

Remote control LUXOMAT® IR-PD-DALI-E



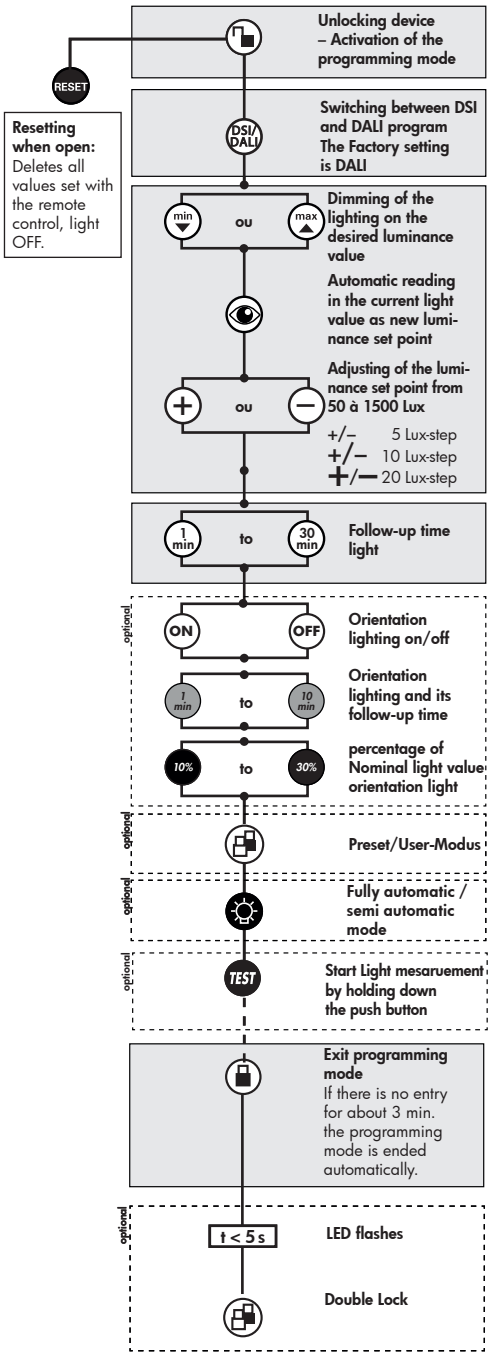
1. Check Battery:
Open battery compartment by pressing the plastic springs together and removing the battery-holder.



IR-PD-DALI-E

Wall bracket for remote control IR-PD-DALI-E

15. Settings by remote control when open



16. Light regulation

The detector has two integrated light control algorithms. The set value for the first algorithm is adjusted by potentiometer (LUX) on the device. Very small light amounts, which shine directly à the detector, have the result of a trigger under control of the set value.

The second algorithm has an integrated daylight compensation. Therefore it is necessary, that the detector analyzes the switched light quantity. This algorithm can only be used by remote control. The programming of the setpoint value and the measurement of the light quantity in two steps:

In the open state
The set value will be without daylight (no light in room) adjusted by using the remote control.
Measuring the light quantity, will be initiated by a long press (> 3 sec) at the test button. The detector turns the light on for 5 min. up à 100%. Then the light will be on and off for a short time and stays on after that. This measuring process is shown by a flashing green LED (10 sec on / 1 sec on). This measuring process is required for each change of the set value.

⚠ If the setting "permant orientation lighting" is chosen, the function will be active after measuring process is done.

If the measuring process is not performed, the detector performs this automatically, when the ambient light is for 1 h less than 50 LUX.

17. Fully / Semi automatic mode

The mode is changed using the button "Light" in the open state. Each time the button is pressed, the current operating mode is indicated by the LEDs:
Red shines for 3 sec. = Full automatic mode
Green shines for 3 sec. = Semi-automatic mode

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

Semi-automatic operation
In this operating mode, the light turns on only after a manual switching, for an increased savings success (see section 22). Switching off is automatically ou manually (see section 22). The semi-automatic mode basically behaves like the full automatic mode. The only difference is that the switching on has à be done by hand.

In case motion is detected within the 10 s after elapse of the follow-up time, the detector switches the light on again and the follow-up time starts again. If there is no motion detected within the 10 s after elapse of the follow-up time, the light has à be turned on manually.

18. Settings during the Self-test cycle

In the first 60 seconds after connecting the AC voltage, the following functions can be set:

INI-OFF/ON-Mode:
Turn off ou turn on the detector during the self-test cycle of 60 sec. The final state is active. Factory settings of the light is on during initialization.

⚠ Initialization mode INI-OFF the detector does not turn on after the power supply voltage. A movement switch on the detector after 60 seconds.

Startup behavior:
The setpoint value can be started after switching on in two ways. The detector switches the lights on à 10% and then adjusts upward (min button) ou it switches the light on 100% and regulates down (max button). This is confirmed by a short flashing of red and white LED lighting. By factory default setting, detector switches the light à 100% and regulates toward the set point.

Reset of electronic ballast
If required the connected EB can be resetted and presetted parameter can be deleted. Press the button "Reset" for 3 seconds in initialisation mode.

19. Test mode/Reset

Test mode
Use „Test" button for activating the test mode and the „Reset" button à deactivate it.

Reset in closed state
The lighting is switched off, and the follow-up times are reset.

Reset in open state
Pressing the button for >3s deletes all settings (except of INI ON/OFF) and the detector is reset à factory state.

20. 100h function

(long press (> 3 s) when closed)

⚠ Before the lamp can be dimmed, the dimming function has à be suppressed for a certain time in order à burn in the lamps.

T5 fluorescent lamps: 80h
T8 fluorescent lamps: 100h

For activating the function, press button „Light ON/OFF" in closed state. During this time, the detector only switches the light ON ou OFF. A dimming à the set value does not take place. After having activated the function, the red and green LED flash alternately.

By pressing the button „Light ON/OFF" again, it is possible à deactivate the function before the time has elapsed.
Failure à comply à the burn-in would lead à reducing the life of the lamp. A further disadvantage could be unwanted random variations in light intensity.

21. Manual Switching

(short press when closed)

You can switch the lighting on and off manually by pressing the pushbutton for a short time. It will stay on ou off as long as people are detected plus the configued follow up time.

22. Manual Dimming – Preset/User

(press when closed)

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

Two different operating modes are selected in the opened state.

The system switches over when the "Doublelock" push-button is open (see remote control functions, page 1). Each time a push-button is pressed, the current operating mode is indicated:
Red lights for 3sec. = Preset
Green lights for 3sec. = User

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. The constant light regulation is now deactivated! The current set artificial light is retained independent of the ambient/daylight brightness! After switching off and then back on, the original 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. The constant light regulation remains activated!

23. Reset the detector

If the double lock is activated, the detector can be opened again as follows:

- Disconnect operating voltage
- Connect operating voltage for 31 s à 59 s
- Disconnect operating voltage again
- Connect operating voltage again and wait for the self testing
- Open detector

With this procedure, the remote control programmed values are not deleted (before activation of the double lock).

If the setting is not changed by remote control after deactivation of the double lock, the detector changes in the double locked mode again after a period of 30 minutes. This way the detector cannot be unlocked during an accidental power failure.

Alternatively, the detector can be reset in this way:
Set potentiometer A à "Sun" and potentiometer B à "Test". The detector now is in test mode and the potentiometer settings are active. All operating LEDs are flashing for three seconds.

Except of the INI ON/OFF setting, the detector is reset à factory setting ou the setting of the potentionmeter.
Pushing the „RESET" button on the remote control, in opened mode, will delete all of the values which were set by the remote control (beside of INI ON/OFF) and set the detector back à its factory settings.

Factory settings
The detector is delivered with the following factory settings: lux value: 500 Lux, follow-up time: 10 minutes Starting the detector in the factory program the initialisation mode starts with a constant flashing of the three operating LEDs.

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