EN

B.E.G. LUXOMAT® PD4-TRIO-2R-1D

Installation and Operating Instruction for **B.E.G.**-Occupancy detector PD4-TRIO with 2 channels/1 DALI-outputs

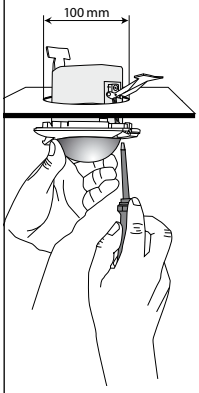
1. Mounting preparations

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.

2. Installation of the LUXOMAT® PD4-TRIO-2R-1D-FC

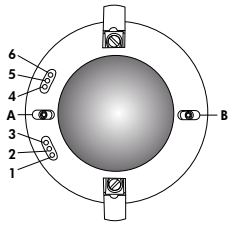


A circular opening of diameter 100 mm must be produced in the ceiling.

Having connected up the cables in accordance with regulations, the detector is inserted into the opening as shown and fixed into position with the retaining bracket using screws.

3. Hardware configuration

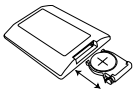
Position of photo cells and LEDs



A/B Photocell 1 / photocell 2
1 LED red HVAC - status
2 LED green channel 2 - status
3 LED white DALI - status
4 LED white semi-automatic/full-automatic
5 LED green light status
6 LED red detection of motion

4. Putting into operation of the remote control IR-TRIO-2R1D (optional)

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



Caution: Settings with remote control supersede the settings by potentiometers.

5. Putting into operation / Settings

Self test cycle
After an initial 60-second self-test cycle, the **LUXOMAT®** PD4-TRIO-2R-1D is ready for operation. (LEDs are flashing).



Potentiometer 3 - Follow-up time channel 3 „HVAC"
The time can be set infinitely variably at between 5 and 120 minutes. The time-setting is valid for channel 3 of the PD4-TRIO-2R-1D.

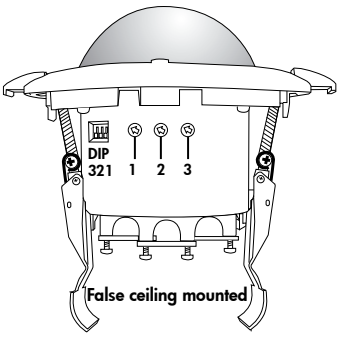


Potentiometer 2 - Twilight-switch for light control DALI-cannel 1
The switch-on value for the light can be set at between 10 and 2000 Lux. Using the rotary control, the luminance set points can be set as desired.
Symbol ☾: Night operation
Symbol ☼: Day/Night operation



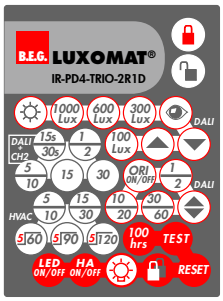
Potentiometer 1 - Follow-up time DALI-channel and channel 2
Symbol **TEST**: Test mode
The time can be set infinitely variably at between 15 sec. and 30 minutes. The setting is valid likewise for DALI-channel and channel 2 of the PD4-TRIO-2R-1D.

6. Position of potentiometer and DIP switch



A **DIP 1** Change between DALI and DSI
B **DIP 2** INITIALIZATION ON/OFF: Choice Light ON or OFF during the initialization
C **DIP 3** OFF-Time: Switching off is possible (Off as long as motion plus follow-up time) OFF-Auto: 5 sec. after switching off the detector is in standard operation

Option: Remote control IR-TRIO-2R1D





Wall bracket for remote control IR-TRIO-2R1D

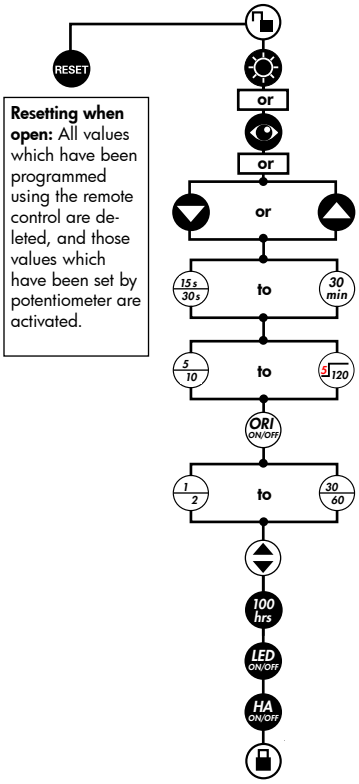
7. Functions/ settings with push button

Channel 1 (DALI)
- The DALI-channel switches on and off daylight-dependent.
- If the detector switches off in semi-automatic mode, there are 10 sec. left to switch it on after detection of movement.
- Switch-on delay: The status „dark" is achieved after a delay, the darker it is, the shorter is this delay (max. 30 sec.).
- The switch-off delay is activated, as soon as the minimum dimming value is achieved and the current light value is over the nominal value. The switch-off delay is at 30 min.
- **Manually dimming is possible with long keypress.** After achieving the maximum/minimum, the dimming direction changes automatically (5 % - 100 %).
- The orientation light dims down, as soon as there is enough daylight.
- **100 h-function to extend the life span – sums up automatically the burning time of 100% luminosity at the beginning up to 100 hours – only then can lights dim.**
- Follow-up timer is re-triggered after movement.

Channel 2 („Board lighting")
- The channel 2 "CH2" switches on and off **daylight-independent**.
- If the detector switches off in semi-automatic mode, there are 10 sec. left to switch it on after detection of movement.
- Follow-up timer is re-triggered after movement.

Channel 3 (HVAC - heating, ventilation, air-conditioning)
- The channel 3 "CH3" switches on and off **daylight-independent**.
- A switch-on delay of 5 min is activated when follow-up time is set at 60, 90 and 120 minutes. During this delay, at least one movement has to be detected within each minute in order to activate the channel.
- Follow-up timer is re-triggered after movement.

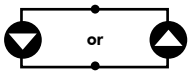
8. Settings by remote control



Resetting when open: All values which have been programmed using the remote control are deleted, and those values which have been set by potentiometer are activated.

Unlocking device - Activation of the programming modus
Switching on DALI-channel by motion
Automatic reading in the current light value as new luminance set point
Up/down: Nominal value +/- 25 Lux
Follow-up time channel 1 (DALI) and channel 2 (15 sec. - 30 min.)
Follow-up time channel 3 (HVAC) (5 - 120 min.)
Orientation lighting ON/OFF - Permanently ON/OFF
Follow-up time for orientation lighting (1 - 60 min.)
Toggle orientation lighting between 10, 20 or 30 %
Activation/Deactivation of the 100 h function
LED display ON/OFF
Semi-automatic ON/OFF for DALI-channel 1 and channel 2
Locking device - Deactivation of the programming mode

9. Key functions in closed state



Up/down: manual dimming of the lighting (analogical key function)

Activation of the test function, deactivation of the test mode: push reset button

DALI-channel ON/OFF (analogical key function)

5 sec. after pressing the "lock" button the detector can be double locked (Permanent protection), otherwise, diagnostic mode is activated for 2 minutes.

Deactivation of all timers, Deactivation of all channels

10. Key functions in double closed state

In case of deactivation of LED display, the LEDs can be re-activated for 2 minutes.

Activation of diagnostic mode for 2 minutes

Stop the two, above mentioned functions

11. Fully / Semi automatic mode

(see functions IR-TRIO-2R1D on page. 1)

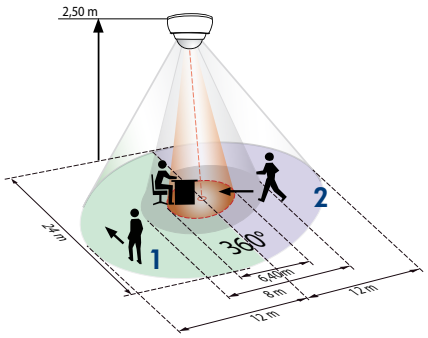
Fully automatic operation
In this operating mode, the lighting switches automatically on and off for increased comfort, depending on presence and brightness.
- Channel 1 (DALI) switches on after movement, when "darkness" was detected.

Semi automatic operation
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 or manually.
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).

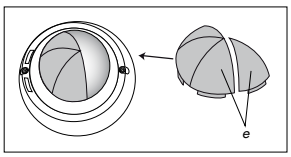
12. Detection area

PD4-TRIO-2R-1D



1 Walking across
2 Walking towards
Seated

13. Exclude sources of interference



In case the sensing area of the **LUXOMAT®** PD4-TRIO-2R-1D is too large or areas are being covered that should not be monitored, the range can be reduced or limited through use of the enclosed masking clips (e).

14. Article / Part nr. / Accessory

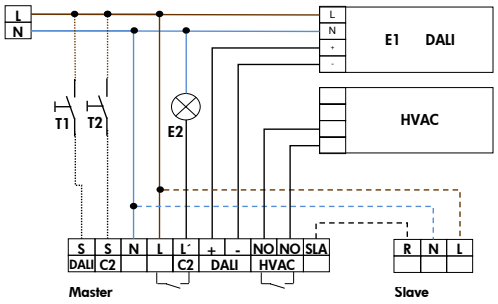
Typ	SM	FC	FM
PD4-TRIO-2R-1D (Master)	–	92790	–
PD4-S (Slave)	92142	92254	92163

LUXOMAT® Remote control:
IR-TRIO-2R1D (incl. wall bracket) 92473

Accessory:
Wire basket BSK 92199
Wall bracket for remote control as replacement 92100

15. Wiring diagram

Terminal connection PD4-TRIO-2R-1D-FC in Master-Slave-operation



Switching channel DALI – *ON/OFF Press the button briefly*
Switching channel 2 – *ON/OFF Press the button briefly*

16. Reset by mains interruption

Removal of double-locked state:
- Mains interruption ➔ active for 30-60 sec. ➔ mains interruption ➔ active detector
After this procedure, detector is in single-locked state.

Activation of reset:
- Mains interruption ➔ active for 30-60 sec. ➔ mains interruption ➔ active for 30-60 sec. ➔ mains interruption ➔ active detector

After a reset, the set values are deleted and the potentiometer is active again.

17. Dynamic setting of DALI channel

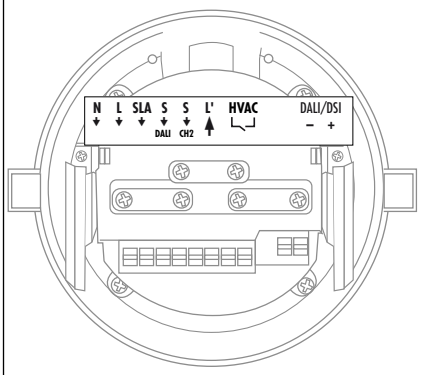
The setting of DALI channel is dynamically made.
Within around 5 min., the light is linearly dimmed from maximum to minimum.
If it gets too dark, the DALI channel adjusts. The darker it is, the quicker it adjusts.

18. Technical data PD4-TRIO-2R-1D

Sensor and power supply in one case
Power supply: 230 V~ +6 %/-10 %
Power consumption: < 1 W
Ambient temperature: -25°C – +50°C
Degree of protection / class: IP20 / II
Settings: control dial, DIP switch and remote control
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
• Channel 1 - DALI for light-connection, light-controlled
Lux values - Remote control: 300 - 1000 Lux
Lux values - Potentiometer: 10 - 2000 Lux
Follow-up time: 15 sec. - 30 min. / Test
ON-delay: max. 30 sec.
OFF-delay: 30 min.
Orientation lighting: 10 - 30 % of the nominal value
Follow-up time orientation lighting: 1 - 60 min.
Max. no. of series-connected electronic DALI-ballasts: 25
1 input contact for button for switching lighting on and off and dimming the lighting
• Channel 2 - to switch the "board lighting", only reacts on motion
Follow-up time: 15 sec. - 30 min. / Test
Semi- or Fully automatic: in common with channel 1
Type of contact: NOC/with pretravel tungsten contact
Contact load: 3000 W, 230 V~, 16 A cos φ=1 / 1150 VA cos φ= 0,5
• Channel 3 - to switch HVAC (Heating, Ventilation, Air-conditioning), only reacts on motion
Follow-up time: 5 - 120 min.
Delay: 5 min. with at least 1 movement per minute at a set follow-up time of 60, 90 or 120 min.
Type of contact: Dry contact type NOC
Contact load: 700 W, 230 V~, 3 A cos φ=1 / 350 VA cos φ= 0,5
Dimensions H x Ø [mm]: 100 x 117
Visible portion when built into ceiling: H 37 x Ø 117 mm

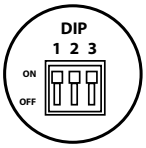
CE **Declaration of Conformity:** The product complies with the low voltage recommendation 2006/95/EC and the EMV recommendation 2004/108/EC.

19. PD4-TRIO-2R-1D - Connections



20. DIP switch functions

DIP-switch	OFF	ON
1 (**A**)	DALI	DSI
2 (**B**)	Lights during initialization ON	Lights during initialization OFF
3 (**C**)	OFF-Auto (see point 7)	OFF-Time (see point 7)



21. LED function display

LED	Colour	Function	Display
Standard operation			
6	red	Display of movement	Flashing: *motion is detected* Flashes quickly: *Permanent signal at slave entry*
5	green	Display of light status	Off: *dark* Shortly ON: *not yet dark* Long ON: *not yet bright* ON: *bright*
4	white	Semi automatic and fully automatic	Shines in semi-automatic mode
3	white	DALI status	Shines: *DALI channel active* Flashes twice: *OFF via button* Flashes once: *100h-function active*
2	green	Display of light status channel 2 (Board lighting)	Shines: *channel 2 active* Flashes twice: *OFF via button*
1	red	HVAC status	Shines: *HVAC channel active*
all LED's		Confirmation	Flashes once per second: *- correct input* Flashes quickly once per second: *- incorrect input* Flashes once per second (during initialization): *- not programmed* Flashes twice per second (during initialization): *- programmed*
all LED's		Status	) flash once all 5 sec.: *- detector is double-locked*
LED 1-3 LED 4-6		Activation of the diagnostic mode	LED 1-3 and LED 4-6 flash by turns: *- diagnostic mode is activated/deactivated*
Diagnostic mode			
6	red	Slave status	Shines: *active*
5	green	Button status CH2	Shines: *active*
4	white	Button status DALI	Shines: *active*
3	white	DIP1 status	Shines: *active*
2	green	DIP2 status	Shines: *active*
1	red	DIP3 status	Shines: *active*

The diagnostic mode is activated by pressing the „double-lock-button" when detector is „locked" or „double-locked".
The diagnose controls the DIP-switches and buttons.