

Installation and Operating Instruction for B.E.G. - Occupancy detectors PD9-Master-DIM+HVAC

1. Mounting preparations

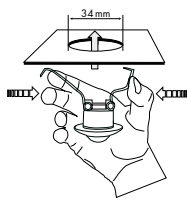
Work on the 230V mains supply may only be carried out by qualified professionals or by instructed persons under the direction and supervision of qualified skilled electrical personnel in accordance with electrotechnical regulations.

Disconnect supply before installing!

The device is not suited for safe disconnection of the mains supply.

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

2a. Installation

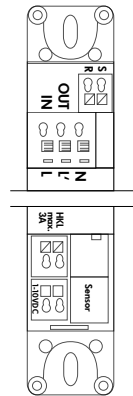


The detector has been designed and developed specifically for installation in suspended ceilings.

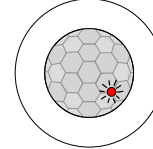
At first a circular opening of diameter min. 24 mm must be produced in the ceiling. For sensor and power supply installation circular opening has to be 34 mm.

Having connected the cables in accordance with the regulations, connect the power supply via the RJ12 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.

2b. Connecting terminals



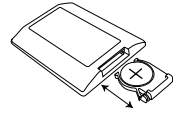
2c. Self test cycle



The LUXOMAT® PD9-M-DIM+HVAC enters an initial 60-second self-test cycle, when the supply is first connected. The occupancy detector is ready for operation.

Default:
Light values: 300 Lux;
follow-up time Channel 1: 5 min.;
Orientation lighting: follow-up time;
HVAC: 15 min.

3. Settings carried out using remote control (optional)



LUXOMAT® IR-PD-DIM+HVAC Remote Control

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

4. Option:

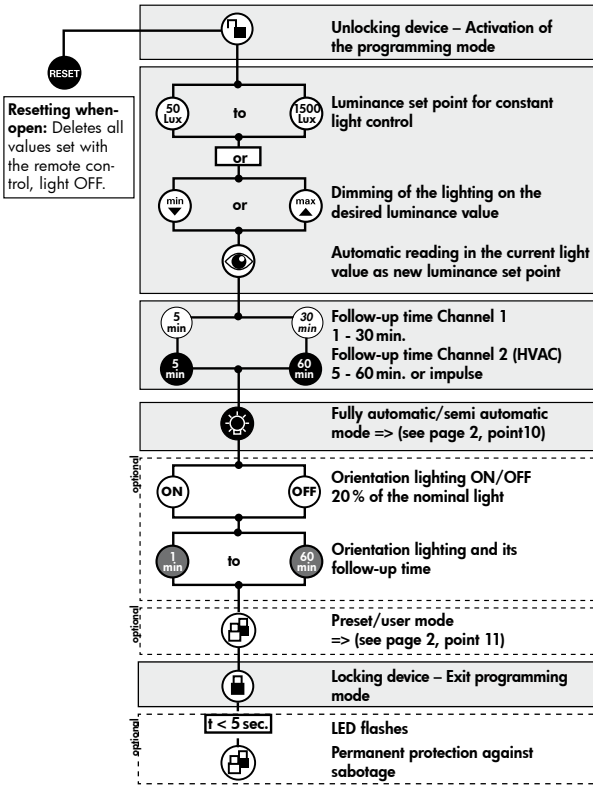


IR-PD-DIM-HKL
(Code: 92114)

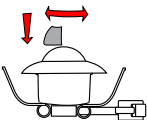


Wall bracket for remote control IR-PD-DIM+HVAC

5. Settings by remote control in opened state

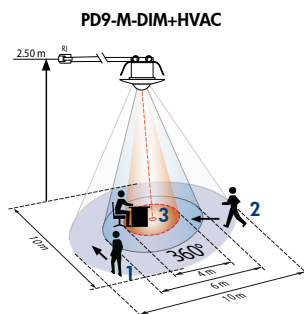


7. Exclude sources of interference



In case the sensing area of the LUXOMAT® PD9-M-DIM+HVAC 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.

8. Range of Coverage

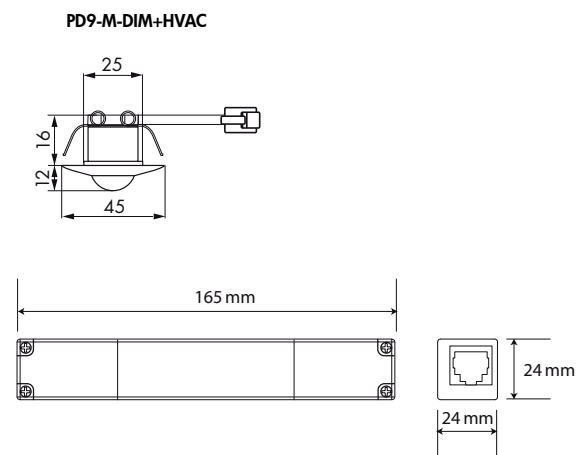


- 1 Walking across
- 2 Walking towards
- 3 Seated

6. Key functions in closed state

- Light on / off when closed => (see page 2, point 12)
- Dimming in the closed state => (see page 2, point 11)
- Test operation in the closed condition to enable Disable the test mode: press reset
- 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". 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
- Dim in the open state To set a target value, proceed as follows (example workplace): Place one lux meter flat on the desk. Set the light. With the help of remote control IR-PD-DIM+HVAC by pressing the buttons "max" or "min" as necessary. Wait until the desired light level is reached.
- Confirmation by the preset value Light during the initialization The light is on by default in the initialization time. On / off with the "Light" button during Initialization. The final condition is then active.
- Orientation light ON / OFF when open Note: Also during the orientation phase of the light constant light control is active: With sufficient brightness is <20% dimmed and turned off the lights if necessary.

9. Dimensions



10. Fully/Semi automatic mode

(for IR-PD-DIM+HVAC functions see page 1)



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

11. Manual Dimming - Preset/User

(for IR-PD+HVAC 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!

12. 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.

13. Manual switching HVAC-Channel

230 VAC for 0.1 - 1 seconds on the slave port R

Lay on the slave port R for 0.1 - 1 seconds to 230 VAC, is this like a key signal for the HVAC channel interpreted.

14. Article / Part nr. / Accessory

Typ	RAL9010	RAL9006
PD9-M-DIM-FC (Master)	92973	—
PD9-S-FC (Slave)	92905	92906

LUXOMAT® Remote control:

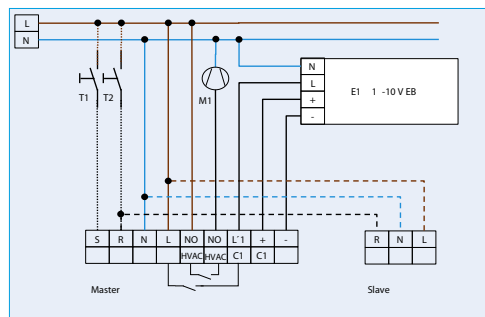
IR-PD-DIM-HVAC (incl. wall bracket) 92114
IR-PD-DIM-Mini 92098

Accessory:

Covering for PD9 white 92238
Covering for PD9 silver 92237
Covering for PD9 anthracite 92235
Covering for PD9 white 92327
Covering for PD9 silver 92346

15. Wiring diagrams

Standard mode with master DIM occupancy detectors



M1 = HVAC-Function

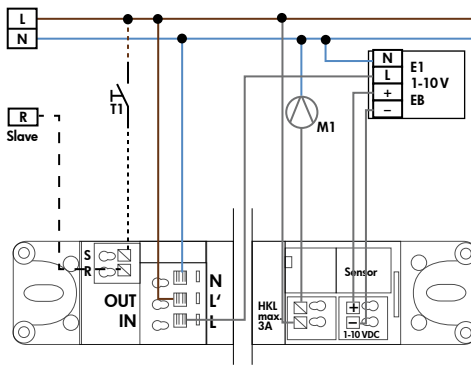
optional

T1 = NO button for Light-Channel

T2 = NO button for HVAC-Channel

Slave to the extension of coverage

16. Connections



17. Technical data PD9-Master-DIM+HVAC

Connection of sensor and power supply by means of telephone plug RJ12

Power supply: 230 V~ ±10%

Power consumption: < 1 W

Ambient temperature: -25°C to +50°C

Degree of protection/class: IP20 / II / CE

Settings: by remote control

Light values: 10 - 2000 Lux (remote control)

Extension of the detection area: with Slaves

Area of coverage: circular 360°

Range Ø H 2.50 m / T = 18°C:

PD9-M-DIM+HVAC seated 4 m / tangential 10 m / radial 6 m

Recommended height for mounting

PD9-M-DIM+HVAC 2 - 3 m

Light measurement: daylight and artificial light

• **Relay/Channel 1 for light-connection**

Type of contact: NOC/with pretravel tungsten contact

Contact load: 2300 W, cos φ=1 /

1150 VA cos φ=0.5, μ-Contact

DIM-Output: 1 x (1-10 V)

Max. no. of series-connected electronic ballasts:

max. 50 electronic ballasts by one single supply with

max. 100 m cable run and a conductor cross-section of

0.75 mm²

Time-settings: 1 - 30 min. / test

• **Channel 2 for control devices (only reacts on motion)**

Contact load: 230V~, 16A cos φ=1, μ-Contact

Follow-up time: 5 min. - 60 min. und impulse

Manual switching HVAC-Channel

slave part R for 0.1 - 1 seconds to 230VAC,

to 230VAC,

Dimensions H x Ø [mm]

PD9-M-DIM+HVAC Ø 45 x H 28 mm

Power supply L 165 x W 24 x H 24 mm

Technical data PD-Slave

Power supply: 230 V~ ±10%

Impulse output: Optocoupler max. 2 W

Impulse duration: 2 sec. or 9 sec.

Dimensions: see above

CE 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.

18. LED-functional indicators, faultfinding

The functional indicators in the case of the LUXOMAT® PD9-M-DIM(-GH) (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

Lights up for 3 seconds

Display automatic: Lights up for 3 seconds

Flashing for 3 seconds

Display semi automatic

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)

Illuminated for 2 seconds

Signal validly received

(dependent upon operating mode)