

Installation and Operation Instruction motion detector PBM 280

1. Product information

- Motion detector with downward detection for gapless monitoring
- Adjustable ball head
- Easy mounting thanks to plug base
- Detection area can be restricted with blinds
- Special socket for external corner mounting included
- Additional functions can be set up using the optional remote control
- Factory settings 3 min and 20 lux

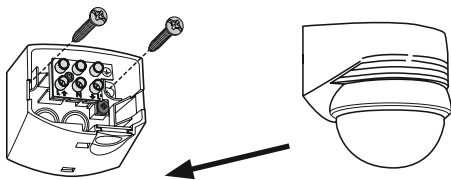
2. Operation

Motion detectors switch the light automatically depending on movement and ambient brightness. If the ambient light is below the switch-on threshold, a movement activates the lighting. The lighting is switched off after the follow-up time has elapsed and no movement detected.

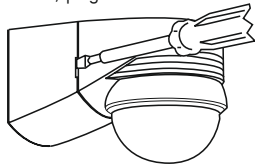
3. Preparing for installation

- ⚠ **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.**
- ⚠ **The total number of switchable loads is limited due to high inrush currents of electronic ballasts and LED drivers. In case of a large number of connected loads please use an external contactor.**
- ⚠ **For all connected loads, proper interference suppression is obligatory**

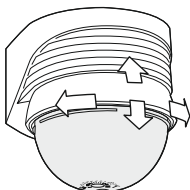
4. Mounting and aligning the detector



Fix the mounting socket on a solid plane using two screws (included). Afterwards, plug in the detector.

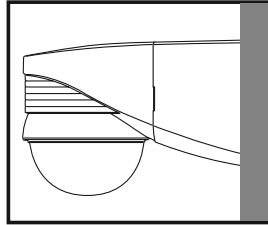


For detaching the detector from the mounting socket please use a screw driver.

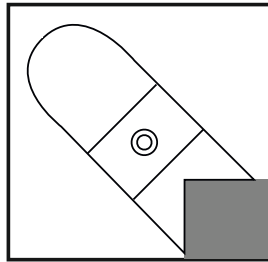


The detection area can be varied by pivoting the ball head horizontally (approx. $\pm 45^\circ$) and vertically (approx. $\pm 15^\circ$).

5. Mounting of the detector

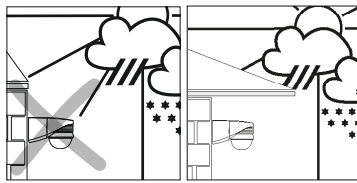


1) Wall mounting

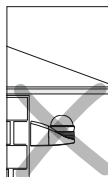


2) Outside corner mounting using corner socket (included in delivery)

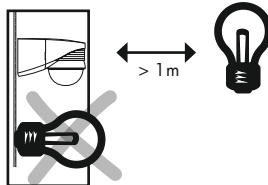
6. Mounting locations



1) Mount the device at a weather-protected place.



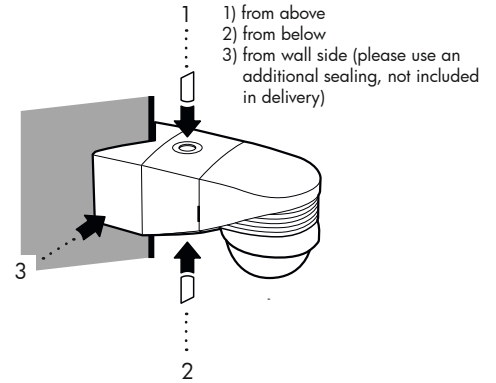
2) Follow the installation standards.



3) Minimum distance to the switched light, frontally or laterally to device: 1 m

Do not mount a light source below the detector.

7. Inserting of the connection cable



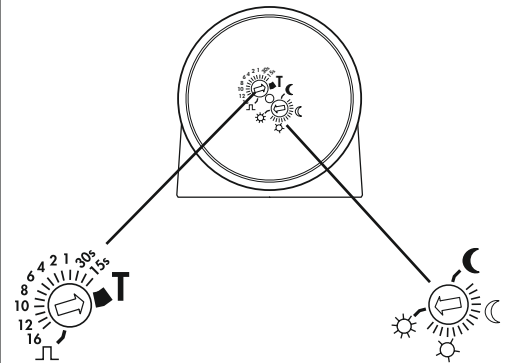
1) from above
2) from below
3) from wall side (please use an additional sealing, not included in delivery)

8. Self test cycle

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.

9. Potentiometers / LED arrangement

The potentiometers for modifying the settings are arranged in the lower part of the lens.

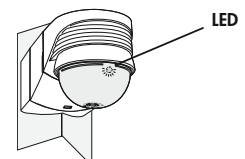


Test/Follow-up time/Impuls:	Switch-on threshold:
The follow-up time is a time period which starts upon detected movement and which defines the duration for the connected load to stay on. The duration can be chosen between 15s and 16 min.	The different symbols represent different LUX values, the black moon representing night operation (light is switched on only when it is dark). The sun represents day and night operation, the light evaluation is inactive.

T The test mode is for determining the detection area. Upon each detected movement the light is switched on.

⏏ When PULSE is selected, a pulse of one second is sent upon detected movement, followed by a pause of nine seconds.

Arrangement of the LED



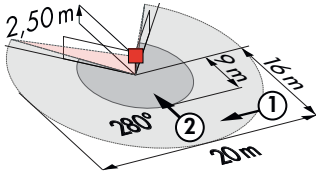
10. Factory settings



Upon delivery, the potentiometers are set to "SUN" and "TEST". This means, that the factory settings are active and the detector is ready for operation. The factory settings are as follows:

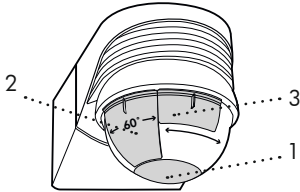
Follow-up time: 3 min.
Switch-on threshold: 20 Lux

11. Range at a mounting height of 2.5 m; Minimum mounting height 2.00 m



- ① Walking across
- ② Walking towards

12. Exclude sources of interference



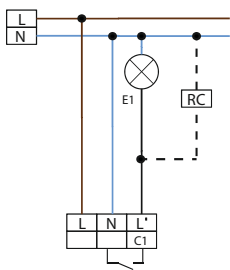
- 1) Blind for excluding downward detection
- 2) Blind for excluding close and far range
- 3) Blind for excluding far range

13. Wiring diagrams

Schematic diagrams – when connecting the detector, please respect the labelling of the terminal connections of the detector!

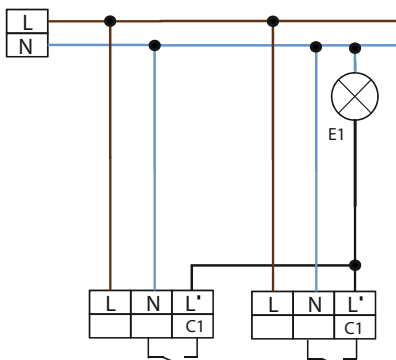
Standard operation (with optional arc extinction kit)

When switching inductive loads (fluorescent lamps, contactors etc.) an arc extinction kit may be required.



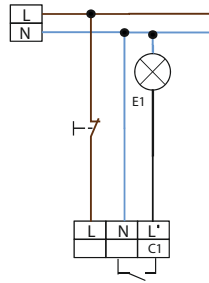
Parallel operation

We recommend using a maximum of five detectors in parallel operation.



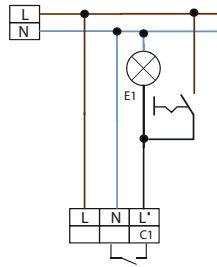
Standard operation with external pushbutton (NC)

When using a normally closed pushbutton in the supply line of the detector, it is possible to cut the power supply and to start the self-test cycle. The light stays on as long as movement is detected plus follow-up time, but at least for 60s.



Permanent light with external pushbutton

Manual switching of the connected load is possible. ATTENTION: in this case, the light has to be switched off manually, too!



14. Technical data

Voltage:	110 - 240 VAC, 50/60 Hz
Power consumption:	approx. 0,5W
Switching power:	2000 W, $\cos\phi = 1$ 1000 VA, $\cos\phi = 0,5$
Switching power (relay):	max. inrush peak current I_p (20ms): 120A
Detection range:	approx. 16 m
Time settings:	15s - 16min, pulse
Lux value:	approx. 2 Lux up to day- and night-time operation (light evaluation inactive)
Factory settings:	Follow-up time 3min., switch-on threshold 20 lux
Range of coverage Ø:	280° with downward-facing detection
Degree of protection/class:	IP54 / II
Dimensions:	L 110 x B 68 x H 78 mm
Material:	Polycarbonate, UV-resistant
Colour:	white / silver
Mounting options:	Wall and corner mounting (Socket for outer corner mounting included)
Cable introduction:	from above, below or the wall side
Settings:	via potentiometers and remote control

The device does not fulfil the requirements of EN50131-2-2 and therefore cannot be used in professional intrusion detection systems.

EU Declaration of Conformity



This product respects the directives concerning
1. electromagnetic compatibility (2014/30/EU)
2. low voltage (2014/35/EU)
3. restriction of the use of certain hazardous substances in electrical and electronic equipment (2011/65/EU)

15. Article / Part no. / Accessory

Typ	Part no.
PBM 280 WS	05104832
PBM 280 SI	05104833

Accessory:

Remote control
PBM 280 FB

Part. no. 05104834

16. LED function indicators (status LED)

LED function indicator after each mains recovery (60s self-test cycle)	
Detector not programmed	LED flashes 1x per 1s
Detector programmed	LED flashes 2x per 1s

LED function indicator during operation	
Process	Function display LED
Detected movement	red flashes on every detected movement

17. Settings with remote control (optional)

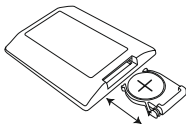
 Settings with remote control overwrite the settings by the potentiometers.

The potentiometer settings are reactivated by

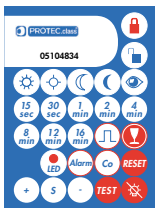
- turning the potentiometers to "TEST" and "SUN" from any other position
- pressing the remote control button "RESET" in open state

PBM 280 FB

1. Check Battery:

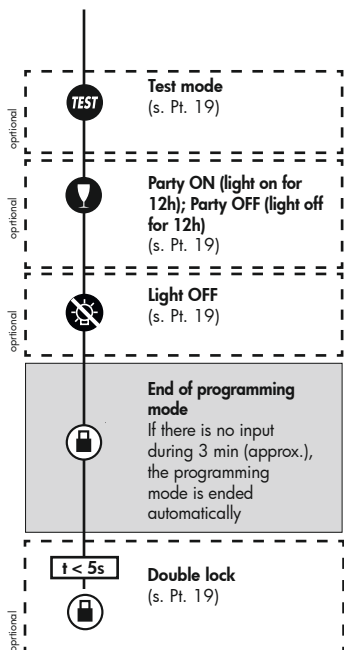
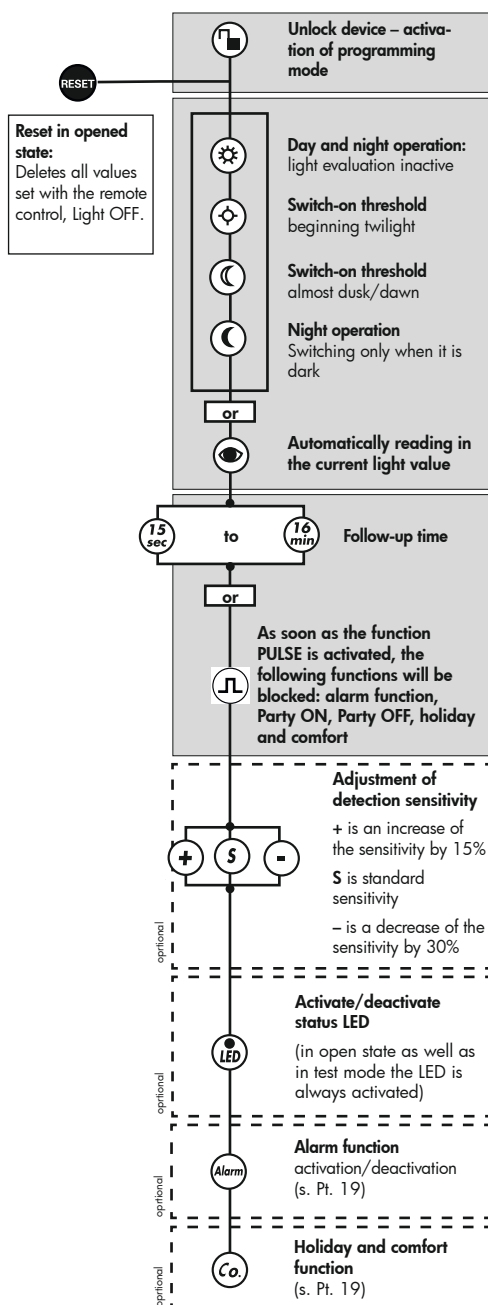


Open battery compartment by pressing the plastic springs together and removing the battery-holder.



PBM 280 FB


18. Functions PBM 280 FB



19. Function descriptions

The pressing of a button is confirmed by a short switching of the relay.

19a. During the self-test cycle

Activation of the Party OFF function: This function enables the lighting to be switched off for 12h when pressing the pushbutton. For safety reasons, this function is deactivated in the factory settings. However, it is possible to activate the function by pressing: 

The activation of the Party OFF function is confirmed by a fast flashing of the LED for 5s.

The Party OFF function can be deactivated by pressing the button



19b. During operation in closed state



By pressing the button the light is turned off. Upon detection of a movement, the detector switches the light on again.



In party-ON mode, the light stays on for 12h. The party-OFF mode being activated, it is possible to switch the light off for 12h using this button.



A short press of the button ends all running timers. The party function can be stopped by pressing this button.



The function "Double lock" allows to lock the detector against remote control signals. Only the function "LIGHT OFF" can be activated in this mode. **The double lock function can be activated during 5s (LED is flashing) after having locked the detector by a long press of the button.** As activation confirmation, the LED shines while the button is pressed.

19c. During operation in open state



The potentiometers being set to TEST and SUN, the device is reset to factory settings. If not, the device is reset to potentiometer settings. The settings programmed during self-test cycle remain valid.



The function being activated, the detector works like a photoelectric switch. The light is switched on when the light value passes below the switch-on threshold (switch-on delay 1 min). The duration depends on the set follow-up time (seconds become minutes and minutes become hours). However, within 10s after having pressed the button it is possible to set a new follow-up time. After having set the new follow-up time, the device has to be locked.



The test mode is for identifying the detection area. Upon each movement, the light is switched on for a short time. After 3 min, the test mode is ended automatically.



The alarm function being activated, the light blinks upon detected movement during the first 30s of the follow-up time (this being >2min).

20. Resetting the detector

By turning the potentiometers to TEST and SUN during operation, the settings are deleted and the factory settings are reactivated (see section 10).

As an alternative:

- Disconnect operating voltage
- Connect operating voltage for 31s to 59s
- 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 15 minutes. This way the detector cannot be unlocked during an accidental power failure.

21. LED function indicators (status LED)

LED function indicators during self-test cycle	
Party OFF	fast flashing of the LED during 5s

LED function indicators during operation	
Holiday and comfort function	LED 1s on, 1s off
Alarm function	LED flashes 1x per 1s
Pulse function	LED flashes 1x per 1s
End programming mode	LED flashes for 5s