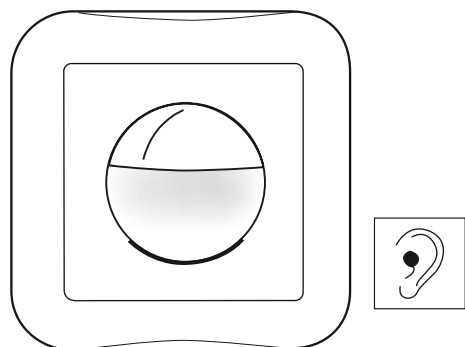


B.E.G. LUXOMAT®

Operating and mounting instruction B.E.G. motion detector Indoor 180-R and 180-T



Thank you for purchasing the motion detector. You have opted for a quality product from the **B.E.G.** range and for one which has been manufactured, tested, packaged and despatched with the utmost care.

Please read the information contained in these directions before commencing assembly. We reserve the right to make any technical adjustments which are in the interests of product-improvement.

CAUTION: All work involves the 230 V mains should be carried out by a qualified electrician! Disconnect the mains before starting.

Type	Part-No.
Indoor 180-T, fully fitted, pure white (Triac version)	92622
Indoor 180-R, fully fitted, pure white (Relais version)	92623
Sensor insert for Indoor 180-T (Triac version)	92664
Sensor insert for Indoor 180-R (Relais version)	92665
Covering IP20, pure white	92630
Covering IP20, traffic white	92641
Covering IP20, cream	92632
Covering IP20, silver	92633
Covering IP20, anthracite	92634
Covering IP54, pure white	92139

1. Function

With the **LUXOMAT®** Indoor 180 you acquired a **B.E.G.**-motion detector for flush mounting in indoor and outdoor applications.

The **LUXOMAT®** Indoor 180 is an automatic switching device which operates on the principle of infrared technology. It continuously measures the ambient temperature and the ambient light level and compares it with the infrared radiation emitted from any moving form which enters its detection zone. Any differential results in automatic switching, provided the light level is beyond a preset light level.

Contrary to other motion detectors which react to moving heat sources only, the **LUXOMAT®** Indoor 180 will not leave you in the dark unless there is no more motion through a combination with an acoustic sensor.

Detecting movement

The sensitivity of **LUXOMAT®** Indoor 180 has been designed to detect the human form includ-

ing of course children and it is therefore possible that some animals, principally large dogs, will also switch the system. This is unavoidable but, in most instances, offers an advantage as unwanted animals are frightened away by sudden lighting. As long as motions are detected the connected lights remain switched on. The sensor would switch off the light after the preadjusted time. If motion is detected again immediately after the switch off, **LUXOMAT®** Indoor 180 can only be reactivated again by motions after 3 Sec.

The **LUXOMAT®** Indoor 180 is equipped with a semiballsize-fresnel lens which gives a semicircular detection field (horizontally appr. 180°, vertically appr. 60°). With regards to the recommended fixing height of 1.10 - 2.20 m and to a motion transversally to the lens segments the radius of the detection field is appr. 10 m.

Acoustic function

As long as the acoustic sensor receives noises e.g. by speech or music the **LUXOMAT®** Indoor 180 remains switched-on even when there are no more motions – the light stays on. Every noise and every motion retrigger the unit again for the period of preselected time. Unless there is no more motion and no more noise, the **LUXOMAT®** Indoor 180 would switch the light off automatically. Immediately thereafter the Indoor 180 can be switched on again e.g. by making sound when this would be done within a period of 8 sec. However has the Indoor 180 not been activated for a longer period, then the unit can be retriggered only by a motion. This combination protects the unit to be switched on by unwanted noises.

2. Prior to installation:

Before installation by all means the following aspects have to be considered:

- The **LUXOMAT®** Indoor 180 is designed for the installation in standard switch flush mounted boxes. The recommended fixing height is 1.10 to 2.20 m.
- Not more than eight **LUXOMAT®** Indoor 180-R can be switched parallel, in order to avoid potential fault switchings.
- The connected load must not exceed the following values:
180-T (Triac version):
 Incandescent / halogen lamps 40 - 300 W max.
180-R (Relais version):
 Resistive load 2300 W, $\cos\varphi=1$
 Inductive load 1150 VA, $\cos\varphi=0.5$
- There must be no obstacles in the view of the motion detector, since infrared rays cannot penetrate solid materials.
- The **LUXOMAT®** Indoor 180 is an automatic light switch which cannot be used for intrusion applications.

Selection of fixing place:

The optical system of the **LUXOMAT®** Indoor 180 is designed for fixing heights of 1.10 to 2.20 m. A typical application is the replacement of a wall switch in appr. 1.10 m height or for room surveillance in 2.20 m height (pt. 6).

Additionally to the horizontal detection plane the **LUXOMAT®** Indoor 180 has a vertical detection

plane which detects also movements underneath the motion detector. The maximum range is 10 m, independently of fixing height.

The range cannot be adjusted electronically or manually, instead unwanted detection areas have to be eliminated by adhesive tape that must be put on the corresponding lens segments.

Frontal approach

To get a satisfying functioning of the motion detector the following typical property of infrared motion detectors must be considered:

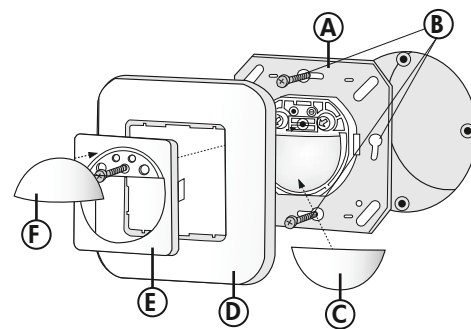
Motion detectors are most sensitive when motions are across the detection zones. In case of a frontal approach the sensitivity and hence the range is considerably reduced (pt. 6).

3. Installation

The detector can be installed in conventional installation sockets. Installation should be made to a wall with a height of 1.10 to 2.20 m.

For the combination with switches of leading manufacturers the enclosed additional blinds can be used.

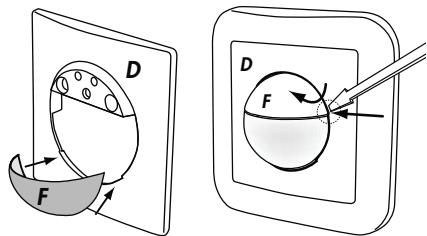
Mounting diagram



• **Make sure the sensor is clear of mains voltage before following steps below.**

- Connect sensor part **(A)** according to the regulations and as shown in the wiring diagrams (pt. 5).
- Depending upon the concealed housing, fasten at the top and the bottom or left and right using the enclosed screws **(B)**.
- Additionally to the horizontal detection plane the **LUXOMAT®** Indoor 180 has a vertical detection plane which detects also movements underneath the motion detector. In order to prevent detection within the vertical range of coverage, apply blind **(C)**.
- Next introduce and fasten the cover **(D)** and the covering-cap **(E)**.
- Switch on mains' voltage. The **LUXOMAT®** Indoor 180 is ready for use after having completed a **self-checking cycle of about 60 seconds**.
- Set the operating time and twilight value.
- Mount covering-cap **(F)**.

- The covering-cap (F) can be removed as shown in the drawing.



For outdoor installations additionally the IP54-accessory-fixing-set has to be mounted (Part nr. 92139).

4. Adjustment of twilight-switch and acoustic-sensor

4.1 Lux-level setting (Photocell)

The lux-level can be set between 2 and 2000 Lux

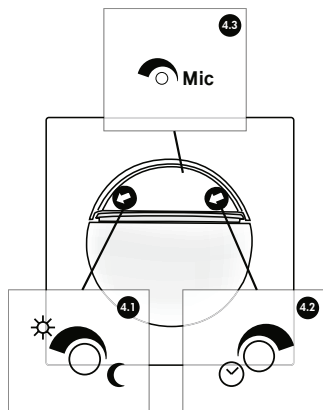
☾ Night operation

☀ Day and night operation

4.2 On-period / switch-off delay time

The switch-off delay time can be set from ca. 15 sec. to 16 min.

(When setting into operation it is recommended to use the shortest timesetting for convenient testing of range and noise sensitivity (pt. 4.3).)



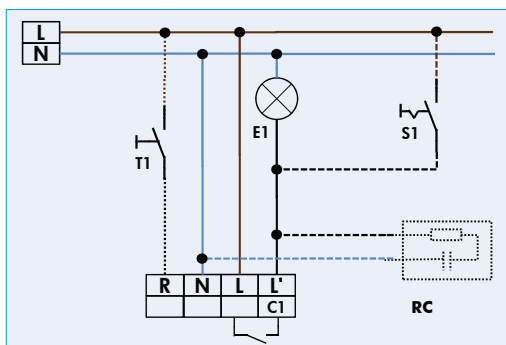
4.3 Noise sensitivity

Fully counterclockwise means highest sensitivity. Fully clockwise means noise detector switched off. Intermediate values to be adjusted accordingly to local conditions. Functioning of the noise detector will be indicated by a LED located behind the lens.

Lighting of the LED means the noise detector is functioning and triggers the timer again.

5. Wiring diagrams:

Standard mode with 1-channel motion detectors Indoor 180-R



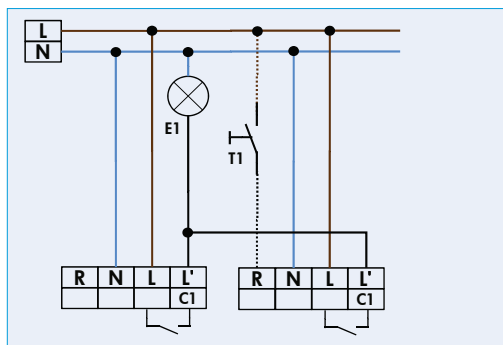
Optional

S1 = switch for permanent light

T1 = NO button, manual switching additionally possible

RC = RC-suppression kit if required

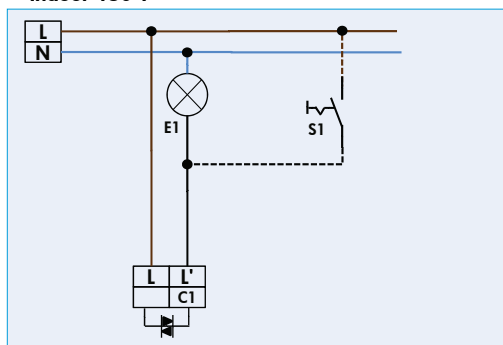
Parallel connection with 1-channel motion detectors Indoor 180-R (max. 8 parallel)



Optional

T1 = NO button, manual switching additionally possible

Standard mode with 2-wire technology, triac Indoor 180-T



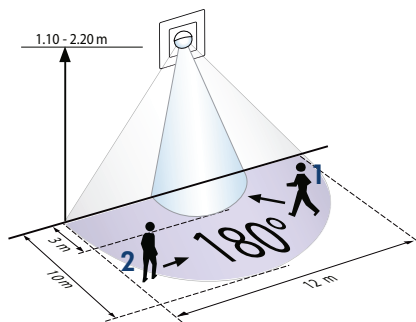
Optional

S1 = switch for permanent light

CAUTION:

The Indoor 180-T cannot be operated in parallel.

6. Detection area



1 ■ Walking towards

2 ■ Walking across

7. Technical data

- Supply voltage 110 - 240 VAC, 50/60 Hz
- Detection angle 180° horizontally
ca. 60° vertically
- Switching power
 - 180-R (Relay version):**
 - Resistive load 2300 W, $\cos\phi=1$
 - Inductive load 1150 VA, $\cos\phi=0.5$
 - Halogen lamps with transformer 1000 VA
 - 180-T (Triac version):**
 - Incandescent / halogen lamps 40 - 300 W max.
- Range (1.10 - 2.20 m mounting height)
 - max. 10 m for lateral walking
 - appr. 3 m for frontal walking

- Timesettings ca. 15 sec. - 16 min.
- Photo electric switch ca. 2 - 2000 Lux
- Dimensions L x W x Depth 87 x 87 mm x 36 mm
- Protection / class IP20, II
- Cabinet material ABS

8. Electromagnetic Compliance (EMV)

When positioned within the direct vicinity of high powered radio transmitting equipment (e.g. portable phones, H.A.M., taxi, police, fire, ambulance, radio operators etc.) false activation switching may be experienced. However, this influence will not damage the sensor electronics.

The automatic switching of the sensor will be switched off as soon as the source of radio interference stops transmitting.

9. Trouble shooting – Practical hints

1. Lamp does not light up

- Tungsten halogen lamp defective
Replace tungsten halogen lamp
- No mains connection
Check connection by qualified electrician
- Incorrect setting of lux level
Correct setting of lux level
- Unit mounted too high
Mount at recommended height
- PIR detector lens obstructed by dirt or other objects
Clean lens or remove objects
- Main fuse defective
Check or replace by qualified electrician

2. Delayed lamp activation

- Mounted too high
Mount at height stated in specification (1.10 - 2.20 m)
- Direct line of approach
Re-direct walking so that the approach is not frontally

3. Lamp stays on continuously

- Continual thermal activity detected ie. extractor fan, central heating ducts
Check for any activity which could cause unit detection to be maintained
- Delay time set too high
Reduce time delay
- Check ambient noise-level, if necessary switch off noise-sources

4. Limitation of range

(not up to the minimum specification)

- Mounted too high
Correct mounting height
- Temperature difference between ambient temperature and source of heat too small
No improvement possible
- Direction of movement aimed directly at lens of motion detector
Move laterally to detector