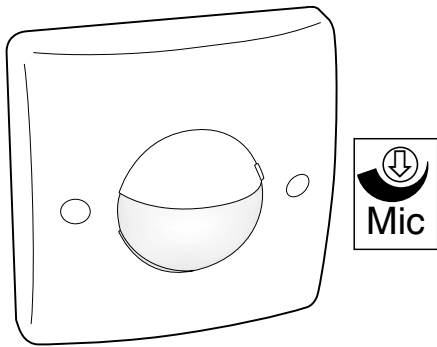


# B.E.G. LUXOMAT®

**Indoor 180-R/2W UK**

## Operating and mounting instruction B.E.G. occupancy detector Indoor 180-R/2W UK (minimum load of 50W is required)



Thank you for purchasing the presence 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: have all work involving the 230 V mains supply carried out by a qualified electrician! Before starting disconnect the mains!**

Please be aware, the **LUXOMAT®** Indoor 180 is not suitable as an intrusion detector, since it is not equipped with a tamper contact according to VDS regulations.

Type	Part-No.
Indoor 180-R/2W-UK	92615

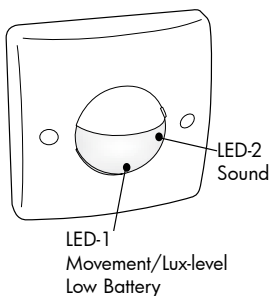
### 1. Product description

The **LUXOMAT®** Indoor 180-R/2W UK is an occupancy detector designed for flush-mounting in indoor lighting applications.

The Indoor 180 utilizes **infrared- and acoustic-**sensing technology to detect the presence and movement of persons (as well the infrared-radiation of larger animals and objects).

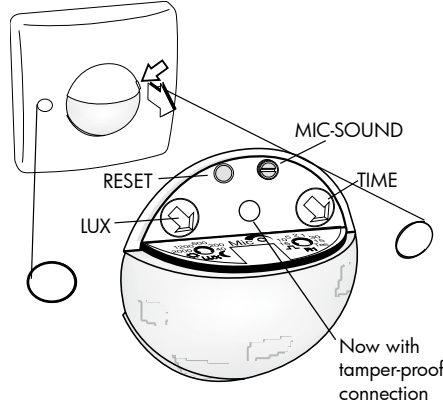
The sensor contains two red LEDs:

- LED-1** for indication of movements (in normal operation)  
lux-level (in TEST mode)  
LOW BATTERY/2 hrs charging status
- LED-2** for sound indication



Furthermore it contains a **twilight (Lux) sensor**, a microphone and a **timer**.

Luxlevel, microphone and timer can be set here: remove top cover as shown, this will give access to the controls. Please follow the markings on the flat top of the lens for adjustment.



### Function:

(Assuming the unit is switched OFF, 230 VAC is present and battery is charged).  
Once the set twilight level is reached (=dark), the Indoor 180 will react only to detected movements and turn ON the relay, thus illuminating the room, until no further movements or sounds are detected and the internal timer elapses.  
Once switched ON, each detected movement and/or sound will restart the timer interval thus prolonging the ON-period.  
Once the relay is switched OFF, the acoustic sensor remains active for another 8 - 10 secs, to allow the relay to be re-triggered by sounds or noises into ON state within this period.

### 2-wire installation:

The Indoor 180-R/2W-UK model has been specifically designed to replace manually operated light-switches in so called 2-wire installation. 2-wire installations pose the problem, that once the relay turns ON the connected luminaires, the powersupply for the sensor is cut-off. The solution to this problem is the use of a rechargeable battery, which will be charged while the luminaires are OFF and which will supply the sensor while the luminaires are switched ON. In ON state the sensor will draw power from the battery and constantly monitor the battery voltage. Once the battery voltage drops to a defined LOW-BATTERY value, the sensor will switch OFF the relay and enforce a **2 hrs long charging period**. The LED-1 will quickly flash!  
(Please note: during this 2 hrs-period, the unit remains OFF and will not react to any movement or sound)  
If no mains supply is present, the battery will discharge further and at some point in time the deep-discharge protection will kick in and shut down the sensor entirely.

### 2. Prior to installation:

Before installation the following has to be considered:

- The **LUXOMAT®** Indoor 180 is designed for the installation in standard switch flushmount boxes.
- The recommended fixing height is 1.1 - 2.2 m
- No parallel installation of units is allowed/recommended.

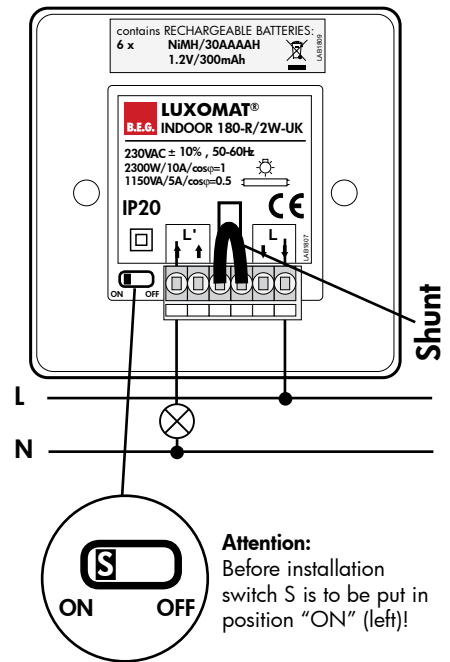
- The connect luminaire load must not exceed  
Ohmic load 3000 W,  $\cos(\varphi) = 1$   
Inductive load 1500 VA,  $\cos(\varphi) = 0.5$   
(minimum load of 50W is required)  
Electronic ballast 35 x 36 W
- There must be no obstacles in the view of the sensor, since infrared rays cannot penetrate solid materials.
- The **LUXOMAT®** Indoor 180 is an automatic light switch which cannot be used in intrusion applications.

### 3. Installation

#### The 230 VAC mains to be switched OFF

The detector can be installed in conventional installation sockets. Installation should be made to a wall with a height of 1.1 to 2.2 m.

Connect wiring as shown:



**Note:** There is a pre-inserted shunt (thick wire). In normal operation this shunt must be installed! Do not remove!

#### Scenario A:

Battery is discharged! – Lights remain OFF!  
LED-1 shall light up and flash quickly to indicate LOW BATTERY and sensor will remain for 2hrs in charging mode = relay OFF.

#### Scenario B:

Battery is sufficiently charged! – Lights turn ON  
LED-1 shall light up and flash slowly for start-up period of 60secs. After start-up period unit is operational.

#### Scenario C:

Battery is discharged! – BUT light turn ON!!  
LED-1/LED-2 do not flash, relay does not switch!  
In this unlikely case the unit cannot recover without removing the SHUNT:  
Turn OFF 230 VAC mains supply and remove shunt, than reconnect 230 VAC.  
Without shunt installed, the load is disconnected from the relay and regardless of relay state,

charging should resume and LED-1 should flash quickly (perhaps with some delay).

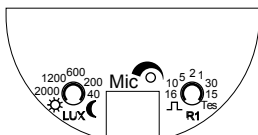
#### Actions in scenarios A + C:

Let the unit charge for approx. 10 mins. The battery shall have recharged sufficiently to allow a few minutes of sensor operation. Than for Scenario C, disconnect 230 VAC and install shunt, and connect 230 VAC again.

For A + C now press the RESET button (near MIC control). Since the battery is charged to nominal voltage, the unit will reset and enter the start-up period (LED-1 slow flashing). After 60 secs the unit is operational and settings can be performed as described below.

## 4. Adjustment of twilight-switch and acoustic-sensor

### 4.1 Twilightswitch (LUX)



The luxlevel can be set between 40 and 2000 Lux

☾ Night operation

☀ Day and night operation

### 4.2 Timer (R1)

- The delay timer can be adjusted from 15 sec. to 16 min.
- TEST:  
Use this mode for setting up operation. Every movement will cause relay to switch ON for 1 sec. and than OFF again: walktest LED-1 shows the current lux-level:  
LED-1 = ON = bright  
LED-1 = OFF = dark
- Symbol Pulse/chime function  
Every motion will turn ON relay for 1 sec followed by a pause, (the next pulse can only occur after pause).  
In pulse mode, there is no need for MIC/ acoustic detection. The MIC-control has therefor an alternative function, it determines the duration of pause following a pulse:  
MIC-control = min = 9 sec.  
MIC-control = 50 % = 30 sec.  
MIC-control = max = 60 sec.

## 5. Technical data

- Supply voltage** 230 VAC +6% / -10%
- Detection angle** 180° horizontally  
approx. 60° vertically
- Switching power**  
Ohmic load 3000 W,  $\cos(\varphi) = 1$   
Inductive load 1500 VA,  $\cos(\varphi) = 0.5$   
Electronic ballast 35 x 36 W  
Minimum load 50 W  
We can supply a capacitor if needed.
- Range** (at 1.1 m mounting height)  
max. 10 m for lateral walking  
approx. 3 m for frontal walking
- Time settings** 15 sec. to 16 min.  
Pulse function 1 sec.
- Twilight switch** 40 - 2000 Lux
- Dimensions** (L x W) 87 x 87 mm  
Depth 36 mm
- Protection / class** IP20, II
- Enclosure material** PC

## 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 (1.1 to 2.2 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 noiselevel, if necessary switch off noisesources*

### 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*

## 10. Range diagram

