

# B.E.G. LUXOMAT® RADAR

## Installation and Operating Instruction for B.E.G. - RADAR-motion detectors HF-MD1

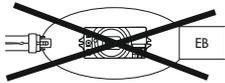
### 1. Product information

- High frequency motion detector, designed for surface mount and installation in lights
- Temperature-independent detection
- Detection can be made through various materials
- Range, twilight setting and light-on time set via dials
- Range can be reduced

### 2. Function

**B.E.G.** high-frequency motion detectors transmit and receive waves with a frequency of 5.8 GHz. Based on the Doppler effect, the change in frequency of the waves reflected by a moving object are measured and the result is used to detect movement. The detection area depends on the size and speed of the moving object. Since high-frequency waves can pass through walls, when HF technology is used it is not always possible to clearly limit the detection area to one room. As a result, people in adjacent rooms may also be detected and activate the light. Metal surfaces close to the installation location of the detector can lead to extremely strong reflections of the signal, which may prevent the HF detector from switching reliably and/or change the detection area.

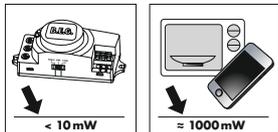
When installing the detector in lamps, observe a distance of at least 80 mm from electronic ballasts. When internally wiring the lamps, ensure that the HF detector is not installed between the individual wires.



**Note:** Since this functional principle can affect the detection quality, always check the suitability of this technology for your application.

### Transmitter output

This is used in roughly the same frequency range as for WLAN. The high-frequency output of the HF sensor is approx. 10 mW – that's just 1/1000th of the transmission power of a mobile phone or microwave oven.



### 3. Safety information

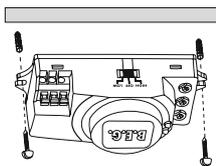
**Work on the 230 V mains supply may only be carried out by qualified professionals or by instructed persons under the direction and supervision of qualified skilled electrical personnel in accordance with electrotechnical regulations.**



**Disconnect the power supply before attempting any work on the unit!**

**This device is not suitable for disconnection.**

### 4. Installation



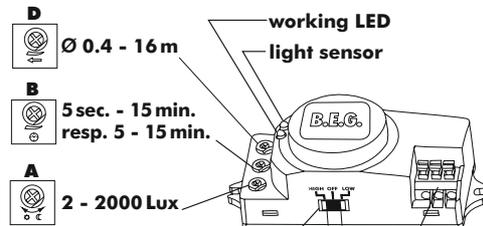
**Note:** Since movement may also be detected through walls, the detector is ideally suited to flush-mount installation or installation above suspended ceilings.

**Application:** Installation in light fittings with sufficient light detection for the light sensor, especially for rooms with poor line of sight contact, detection also possible through lightweight partitions

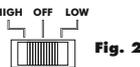
### 5. Putting into operation / Settings (Fig. 1 and 2)

**Fig. 1**

#### Rotary control dial



#### Range switch C:



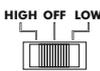
#### N L L' Connections:



**Twilight setting (Rotary control dial A)**  
The chosen light response threshold can be infinitely varied from approx. 2 - 2000 Lux.  
Symbol "MOON" = dusk-to-dawn operation  
Symbol "SUN" = daylight operation



**Time setting (Rotary control dial B)**  
The light can be set for a duration of 5 seconds - 15 minutes or 5 - 15 minutes. Any movement detected before this time elapses will re-start the timer. There will be no twilight evaluation (daytime operation) for as long as the motion detector is switched on.  
**Note:** After the light switches OFF, it takes approx. 1 sec. before it is able to start detecting movement again.



**Range / Sensitivity (Switch C, Rotary control dial D)**  
Range/sensitivity of the sensor can be reduced over switch C and potentiometer D.

Switch C = "LOW": Range can be adjusted between approx. 0.4 - 8 m Ø.  
Switch C = "HIGH": Range can be adjusted between approx. 6 - 16 m Ø.



Switch C = "OFF": Detector is switched off.  
**Note:** We recommend to adjust the range starting at the maximum and then reducing it, if not time delay may occur while setting the range.

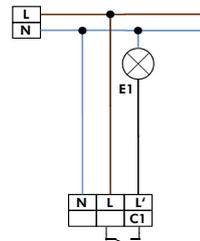
#### Test setting

In order to adjust the detection range during the day, the twilight value must be set to day ("sun" symbol) and time should be set to the minimum (approx. 5 sec.).

### 6. Connections (Fig. 3)

**Fig. 3**

#### Standard mode with 1-channel motion detector



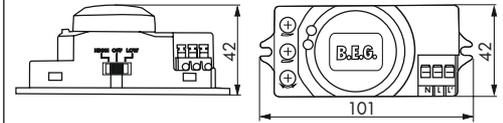
Connect power supply as indicated in the terminal connection:  
Phase = L

Connected phase = L'  
Neutral conductor = N

**Note:** This appliance is made out of synthetic material and of class II, it does not need a protective conductor.

**Attention:** To ensure a long service life for the motion detector, control lamps with high starting currents via an external relay.

### 7. Dimensions

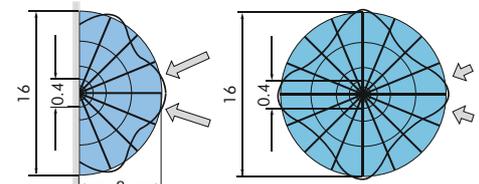


### 8. Range of Coverage max.

(Mounting height = 2.50 m / Switch C = "HIGH")

Wall mounting

Ceiling mounting



Walking towards = Best detection

### 9. Technical data

**Power supply:** 230 VAC ±10 %

**Switching power:** 1200 W, cos φ = 1

600 VA, cos φ = 0,5 μ-Contact

#### Time settings:

HF-MD1 approx. 5 sec. - 15 min.

HF-MD1 ESL approx. 5 - 15 min.

**Twilight value:** 2 - 2000 Lux

**HF-transmitter consumption:** 5.8 GHz, < 10 mW

**Power consumption:** < 1 W

**Protection:** IP20 (only for inside use)

**Class:** II / CE

**Ambient temperature:** -15°C to +50°C

**Note:** When taking the detector into operation or after each power failure, the motion detector will switch on for a duration of 3 seconds.

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

### 10. Article / Part nr.

Type	Part nr.
HF-MD1	94401
HF-MD1 ESL	94417

### 11. Fault-finding / Troubleshooting

#### Light not illuminated

*Twilight-value not reconcilable with the given situation*  
Adjust twilight-value with regulating screw

#### Light illuminated constantly during darkness

*Constant movement activity in the area of coverage*  
If movements caused by sources of interference (animals, ventilation, etc.), remove from area of coverage

Reduce range/sensitivity with "SENS" regulating screw

#### Light illuminated constantly, also during the day

*Twilight-value not reconcilable with the given situation*  
Adjust twilight-value with regulating screw

Check the installation location (see Section 2)

#### Light will not switch

##### Mechanical

Check bulb

Check connection

Check the installation location (see Section 2)