

# B.E.G. LUXOMAT® RADAR

## Installation and Operating Instruction for B.E.G. - RADAR-detector HF-H-MD1-FM Standard

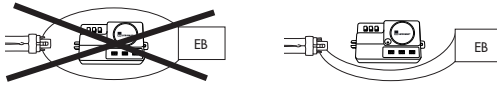
### 1. Product information

- High frequency motion detector, designed for surface mount
- Temperature-independent detection
- Detection can be made through various materials
- Range, switch-on threshold and follow-up time set via dials

### 2. Operation

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.

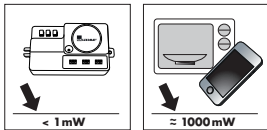
When installing the detector in lamps, observe a distance of at least 80 mm from electronic ballasts. When internally wiring the lamps, ensure that the HF detector is not installed between the individual wires.



**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 W-LAN n. The high-frequency output of the HF sensor is approx. 1 mW – that's just 1th 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.**

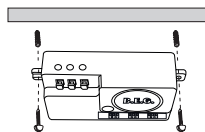
**Disconnect the power supply before attempting any work on the unit!**

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

**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.**

### 4. Installation

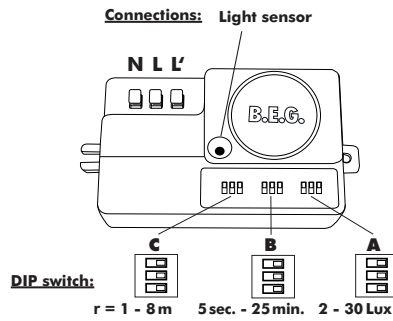
For installation of the device, the in-house fuse has to be turned off!



**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



#### Switch-on threshold (DIP switch A)

Adjustments by DIP switch from 2 - 30 Lux.

- I = 2 Lux, Operation in darkness only
- II = 5 Lux, Operation in darkness only
- III = 20 Lux, Twilight operation
- IV = 30 Lux, Twilight operation
- V = Daytime operation, photo-electric switch off

Daylight Sensor			
I	II	III	2 Lux
●	○	○	5 Lux
○	●	○	20 Lux
○	○	●	30 Lux
○	○	○	Disable

#### Follow-up time (DIP switch B)

The follow-up time can be set for a duration of approx. 5 sec. and a maximum of 25 min. 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.

- I = 5 sec.
- II = 30 sec.
- III = 180 sec.
- IV = 300 sec.
- V = 15 min.
- VI = 25 min.

Hold Time			
I	II	III	5 s
●	○	○	30 s
○	●	○	180 s
○	○	●	300 s
○	○	○	15 min
○	○	○	25 min

#### Range / Sensitivity (DIP switch C)

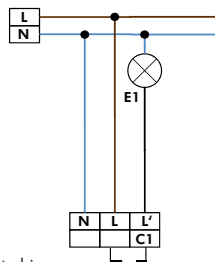
The detection range is directly set at the sensor. The higher the sensitivity, the tighter the detection range.

- 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.
- I = max. range of 100% (8 m radius)
  - II = Range up to 75%
  - III = Range up to 50%
  - IV = Range up to 30%
  - V = Range up to 10%

Detection area			
I	II	III	100%
●	○	○	75%
○	●	○	50%
○	○	●	30%
○	○	○	10%

### 6. Connections

Schematic diagram - when connecting the detector, please respect the labelling of the terminal connections at the detector!

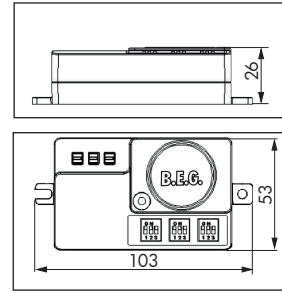


Connect power supply as indicated in the terminal connection:

- Phase = L
- Connected phase = L'
- Neutral conductor = N

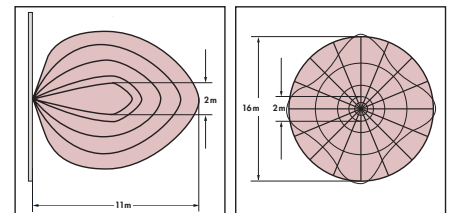
**Note:** This appliance is made out of synthetic material and of class II, it does not need a protective conductor.

### 7. Dimensions



### 8. Range of Coverage max. (Mounting height = 2.50 m)

Wall mounting      Ceiling mounting



The range depends on the size and speed of the object.

### 9. Technical data

- Power supply:** 230 VAC  $\pm 10\%$
- Switching power:** 1000 W,  $\cos \varphi = 1$
- Follow-up time:**  $\mu$ -Contact approx. 5 sec. - 25 min.
- Switch-on threshold:** 2 - 30 Lux
- HF-transmitter consumption:** 5,8 GHz, <math>< 1\text{mW}</math>
- Power consumption:** <math>< 1\text{W}</math>
- Protection/class:** IP20 (only for inside use) II
- Ambient temperature:** -35°C to +70°C

**Note:** When taking the detector into operation or after each power failure, the motion detector will switch on for a duration of 8 seconds.

### 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)
  4. radio equipment (Radio Equipment Directive-RED) (2014/53/EU)



### 10. Article / Part nr.

Type	Part nr.
HF-H-MD1-FM Standard	94431

### 12. Fault-finding / Troubleshooting

#### Light not illuminated

*Switch-on threshold not reconcilable with the given situation*  
Adjust switch-on threshold with DIP switch.

#### 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" DIP switch.

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

*Switch-on threshold not reconcilable with the given situation*  
Adjust switch-on threshold with DIP switch.

Check the installation location (see Section 2)

#### Light will not switch

- Mechanical**
- Check bulb
- Check connection
- Check the installation location (see Section 2)

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