# Radar motion sensor

# RaCon-D BK

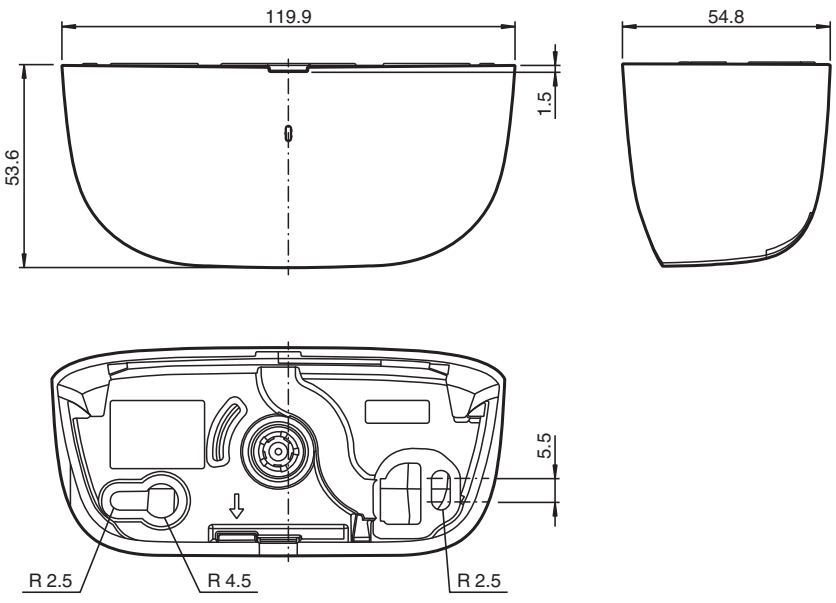
- Premium radar motion sensor
- Detection of people and objects for automatic doors
- Fine tuning of functions and setting adjustment range
- Remote control or push button for functionality setting
- Wall and ceiling mountable

Premium radar motion sensor with premium functionality, detection range 2 m x 4.5 m, max. installation height 4 m, black housing, solid-state relay, cable connection

## Application

- Opening impulse sensors for automatic doors and industrial doors
- Monitoring approach areas to elevators
- Motion sensors for people and objects
- Impulse sensors for escalators

## Dimensions




## Technical Data

| General specifications | | |
|---|---|---|
| Sensing range | | 2000 x 4500 mm (DxW) at 2200 mm mounting height and 60° inclination angle 4000 x 2000 mm (DxW) at 2200 mm mounting height and 60° inclination angle |
| Function principle | | Microwave module |

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## Technical Data

| | | |
|---|---|---|
| Detection speed | | min. 0.05 m/s |
| Setting angle | | |
| Rotation angle | | -30 ... 30 ° in 5 ° increments |
| Inclination angle | | 0 ... 90 ° in 5 ° increments |
| Operating frequency | | 24.15 ... 24.25 GHz K-Band |
| Operating mode | | Radar motion sensor |
| Transmitter radiated power (EIRP) | | < 13 dBm |
| **Functional safety related parameters** | | |
| $MTTF_d$ | | 520 a |
| Mission Time ($T_M$) | | 15 a |
| Diagnostic Coverage (DC) | | 0 % |
| **Indicators/operating means** | | |
| Function indicator | | detection : LED green<br>push button indication : LED yellow / green |
| Control elements | | Push button for selection of operating modes : sensitivity , direction detection , cross-traffic suppression , slow-motion mode , relay switching type, hold time, immunity, swing door mounting |
| Control elements | | Operation mode selection alternativly via remote control (Accessories ordered separately) |
| **Electrical specifications** | | |
| Operating voltage | $U_B$ | 12 ... 24 V DC , - 10 % / +30 %<br>12 ... 24 V AC , 50 ... 60 Hz , -10 % / +15 % |
| No-load supply current | $I_0$ | ≤ 35 mA at 24 V DC |
| Power consumption | $P_0$ | ≤ 0.85 W ≤ 1 VA |
| **Output** | | |
| Switching type | | Normally open/closed (NO/NC) |
| Signal output | | solid-state relay |
| Switching voltage | | max. 28 V AC / 36 V DC |
| Switching current | | max. 0.1 A AC / 0.1 A DC |
| Hold time | | min. 1.5 s max 20 s |
| **Approvals and certificates** | | |
| CE conformity | | 2014/53/EU This device can be used in all countries within the European Union. In other countries, all applicable national regulations must be observed. |
| **Ambient conditions** | | |
| Operating temperature | | -25 ... 55 °C (-13 ... 131 °F) |
| Storage temperature | | -30 ... 70 °C (-22 ... 158 °F) |
| Relative humidity | | max. 90 % non-condensing |
| **Mechanical specifications** | | |
| Mounting height | | max. 4 m |
| Degree of protection | | IP54 |
| Connection | | Connecting cable 2.5 m included with delivery |
| Material | | |
| Housing | | PC (Polycarbonate) |
| Mass | | approx. 120 g |
| Dimensions | | 120 mm x 55 mm x 54 mm |
| Height | | 55 mm |
| Width | | 120 mm |
| Depth | | 54 mm |

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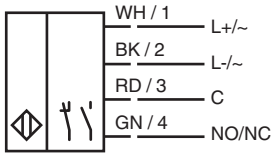
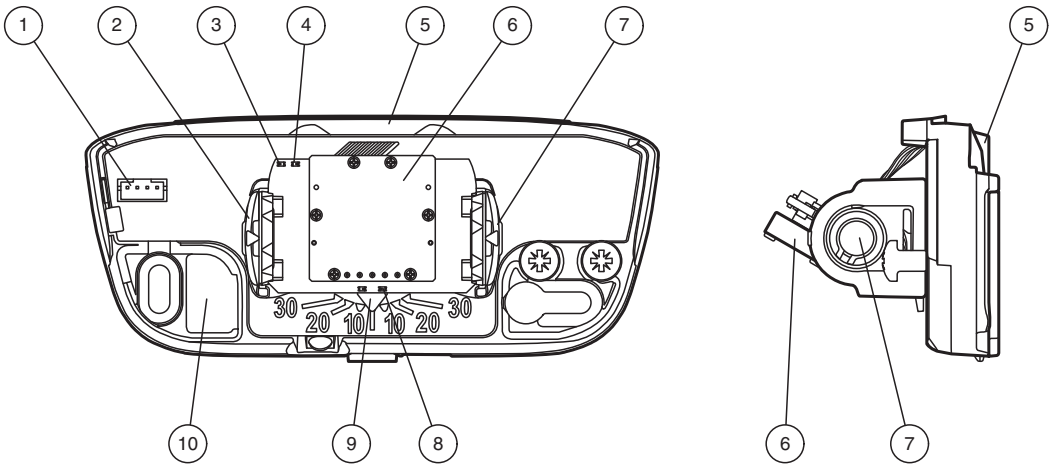
## Connection




## Operation




| | |
|---|---|
| 1 | Connector |
| 2 | Push button, left: - |
| 3 | Push button and detection indication: LED green |
| 4 | Push button indication: LED yellow |
| 5 | above cable entry (optional) |

| | |
|---|---|
| 6 | Antenna |
| 7 | Push button, right: + |
| 8 | Detection: LED green |
| 9 | Rotation angle |
| 10 | Cable entry (default) |

## Function Principle

Microwave sensors are microwave scanners that use the principle of the Doppler radar. The most important requirement for microwave detection is that the object to be detected is moving. Some applications include controlling automatic doors and industrial doors.

The microwave sensors emit microwaves of a defined frequency to detect people and large objects moving at speeds between 0.05 m/s ... 2 m/s. Stationary people or objects are not detected.

Based on the latest 24 GHz technology with integrated microprocessor control, these sensors provide a high level of reliability, even in difficult operational conditions. The 24 GHz frequency, known as 'K-band,' is reserved by CETECOM for this application area all round the world.

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