



## Radar sensor

### RaDec-M



- Standard radar motion sensor with basic functionality
- Reliable detection of people and vehicles
- Simplest adjustment of the sensing range
- Wide range of sensitivity adjustment
- Wall and ceiling mountable

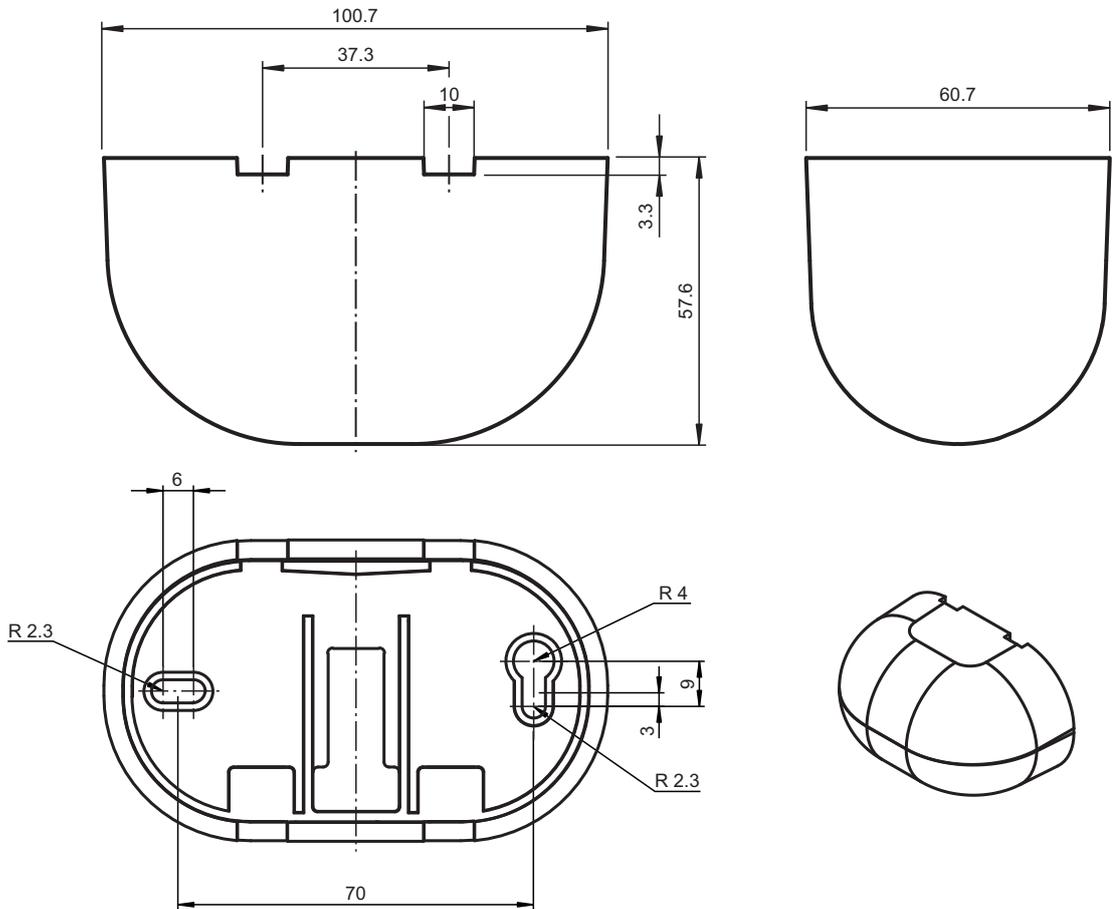
Standard radar motion sensor with basic functionality, detection range 2 m x 4.5 m, max. installation height 4 m, black housing, relay contact output, cable connection



## Function

Function

Dimensions



Technical Data

<b>General specifications</b>		
Sensing range	Wide: 2000 x 4500 mm (DxW) at 2200 mm mounting height and 30° inclination angle narrow: 4500x 2000 mm (DxW) at 2200 mm mounting height and 30° inclination angle	
Function principle	Microwave module	
Detection speed	min. 0.1 m/s	
Setting angle	0 ... 90 ° in 5 ° increments	
Operating frequency	24.15 ... 24.25 GHz K-Band	
Operating mode	Radar motion sensor	
Transmitter radiated power (EIRP)	< 20 dBm	
<b>Functional safety related parameters</b>		
MTTF <sub>d</sub>	970 a	
Mission Time (T <sub>M</sub> )	20 a	
Diagnostic Coverage (DC)	0 %	
<b>Indicators/operating means</b>		
Function indicator	LED red	
Control elements	potentiometer	
Control elements	sensitivity adjustment	
<b>Electrical specifications</b>		
Operating voltage	U <sub>B</sub>	12 ... 36 V DC , 12 ... 28 V AC
No-load supply current	I <sub>0</sub>	≤ 50 mA at 24 V DC

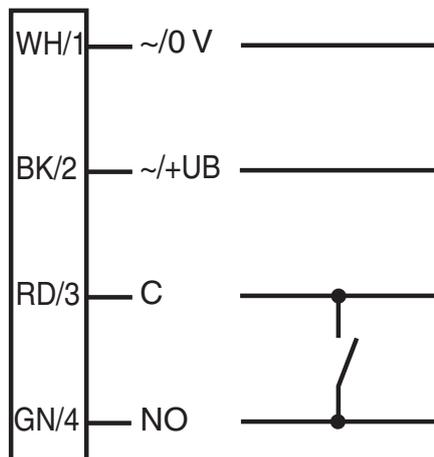
Release date: 2023-04-04 Date of issue: 2023-04-04 Filename: 214959\_eng.pdf

## Technical Data

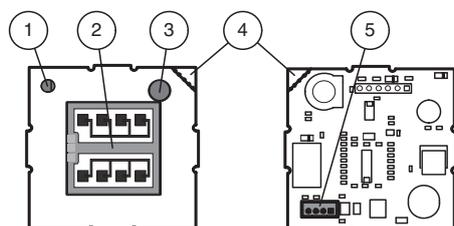
Power consumption	$P_0$	$\leq 1.7 \text{ W}$
<b>Output</b>		
Switching type		NO/NC
Signal output		relay
Switching voltage		max. 48 V AC / 48 V DC
Switching current		max. 0.5 A AC / 1 A DC
Switching power		max. 24 W / 60 VA
De-energized delay	$t_{\text{off}}$	0.5 s
<b>Approvals and certificates</b>		
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.
FCC approval		No - Use in North America is not permitted.
<b>Ambient conditions</b>		
Operating temperature		-20 ... 60 °C (-4 ... 140 °F)
Storage temperature		-30 ... 70 °C (-22 ... 158 °F)
Relative humidity		max. 90 % non-condensing
<b>Mechanical specifications</b>		
Mounting height		max. 4000 mm
Degree of protection		IP54
Connection		Connecting cable 2.5 m included with delivery
Material		
Housing		black polycarbonate (PC)
Mass		130 g
Dimensions		101 mm x 60 mm x 59 mm
<b>Suitable series</b>		
Series		RaDec

## Connection Assignment

Option:



## Assembly



1	LED red
2	Antenna
3	Potentiometer
4	Predetermined breakaway tab (Relay switching mode)
5	Connector

Release date: 2023-04-04 Date of issue: 2023-04-04 Filename: 214959\_eng.pdf

Refer to "General Notes Relating to Pepperl+Fuchs Product Information".

## Application



## Accessories

	<b>RaDec Weather Cap</b>	Weather hood for radar sensors series RaDec
	<b>RMS/RaDec Ceiling Kit wh</b>	Ceiling mount kit for radar sensors in the RMS and RaDec Series

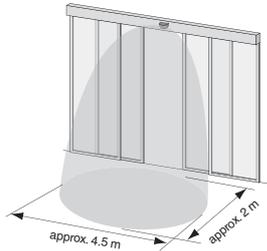
Release date: 2023-04-04 Date of issue: 2023-04-04 Filename: 214959\_eng.pdf

## Commissioning

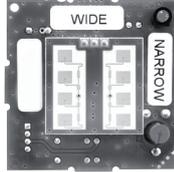
### Sensing Range

A narrower or wider sensing area can be achieved with turning the plug-in antenna.

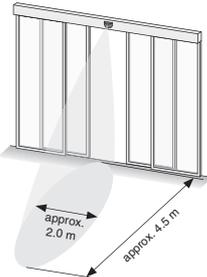
Wide:



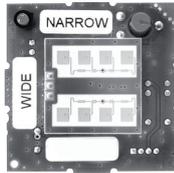
Mounting height 2200 mm / tilt angle 30°  
Antenna position:



Narrow:



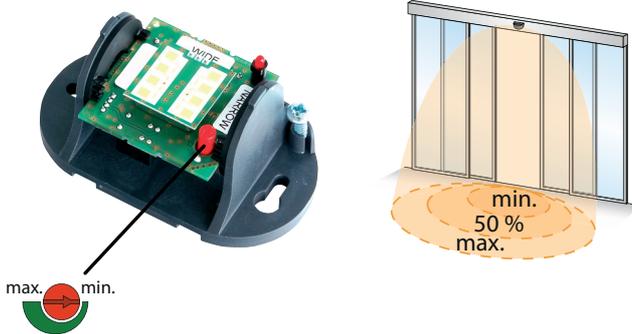
Mounting height 2200 mm / tilt angle 30°  
Antenna position:



The detection field can be swivelled in 10 steps from 0° ... 90°.

### Sensitivity Settings

The sensitivity potentiometer can be used to adjust the size of the detection field.



## 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 and industrial doors.

The microwave sensors emit microwaves of a defined frequency in order to detect people and large objects moving at speeds between 100 mm/sec and 5 m/sec. Stationary people or objects are not detected. Based on the latest 24 GHz technology with integrated microprocessor control, these sensors provide a high degree of reliability even in difficult operating conditions. The 24 GHz frequency, known as the 'K-band,' is reserved by CETECOM for this application area worldwide.

## 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

Release date: 2023-04-04 Date of issue: 2023-04-04 Filename: 214959\_eng.pdf