Model Number

RaDec-M-NA

Radar sensor

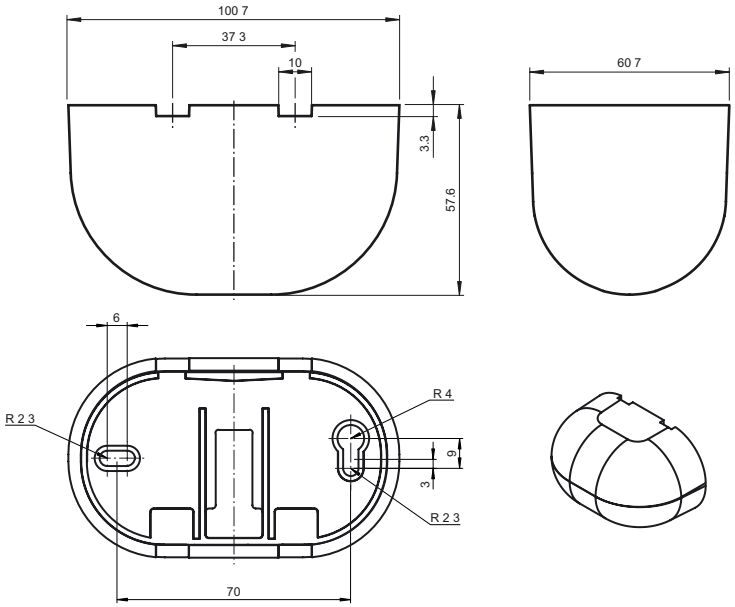
Features

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

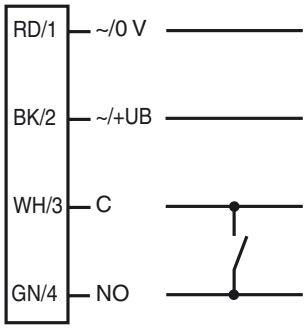
Product information

The RaDec series are affordable microwave motion sensors that combine all the key requirements of door manufacturers in a compact, stylish device that is both user-friendly and easy to install. An integrated microprocessor with 24 GHz microwave technology ensures high reliability even under difficult conditions. The sensor also offers two adjustable sensing areas, different operating modes, an installation height of 4 m, and operates in a temperature range of -20°C to +60°C.

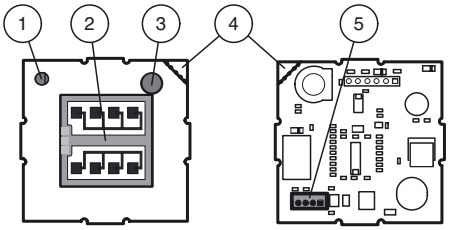
Dimensions



Electrical connection



Indicators/operating means



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

Technical data

General specifications		
Sensing range		broad: 2000x 4500 mm (DxW) at 2200 mm mounting height and 30° tilt angle narrow: 4500x 2000 mm (DxW) at 2200 mm mounting height and 30° tilt angle
Function principle		Microwave module
Detection speed		min. 0.1 m/s
Setting angle		0 ... 90 ° in 5 ° increments
Operating frequency		24.075 ... 24.175 GHz K-Band
Operating mode		Radar motion sensor
Transmitter radiated power (EIRP)		< 20 dBm
Functional safety related parameters		
$MTTF_d$		970 a
Mission Time (T_M)		20 a
Diagnostic Coverage (DC)		0 %
Indicators/operating means		
Function indicator		LED red
Control elements		potentiometer
Control elements		sensitivity adjustment
Electrical specifications		
Operating voltage	U_B	12 ... 36 V DC , 12 ... 28 V AC
No-load supply current	I_0	≤ 50 mA at 24 V DC
Power consumption	P_0	≤ 1.7 W
Output		
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_{off}	0.5 s
Ambient conditions		
Operating temperature		-20 ... 60 °C (-4 ... 140 °F)
Storage temperature		-30 ... 70 °C (-22 ... 158 °F)
Relative humidity		max. 90 % non-condensing
Mechanical specifications		
Mounting height		max. 4000 mm
Degree of protection		IP54
Connection		Connecting cable 2.5 m included with delivery
Material		
Housing		PC/ABS black
Mass		130 g
Dimensions		101 mm x 60 mm x 59 mm
Suitable series		
Series		RaDec

Approvals and certificates	
FCC approval	FCC Rules part 15 / This device can be used in the USA.
IC approval	RSS210 Issue 8.0 / This device can be used in Canada.
Approvals	Use in countries within the European Union is not permitted. In other countries, all applicable national regulations must be observed.

Functional 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.

Typical applications

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

Detection area

Accessories

RaDec Weather Cap
Weather hood for radar sensors series RaDec

Other suitable accessories can be found at www.pepperl-fuchs.com

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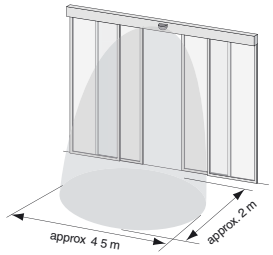
Sensing range

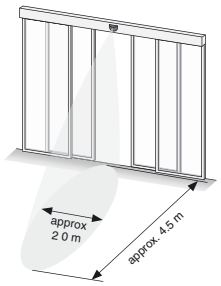
A narrower or wider sensing area can be achieved with turning the plug-in antenna.

Wide:



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

Narrow:

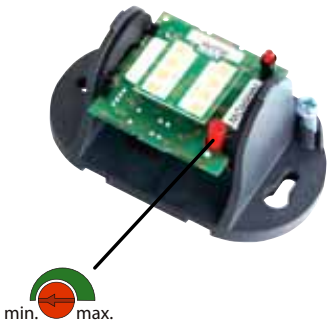


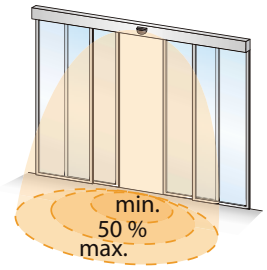
Mounting height 2200 mm / tilt angle 30°
Antenna position:

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

Sensitivity settings

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





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