Radar sensor

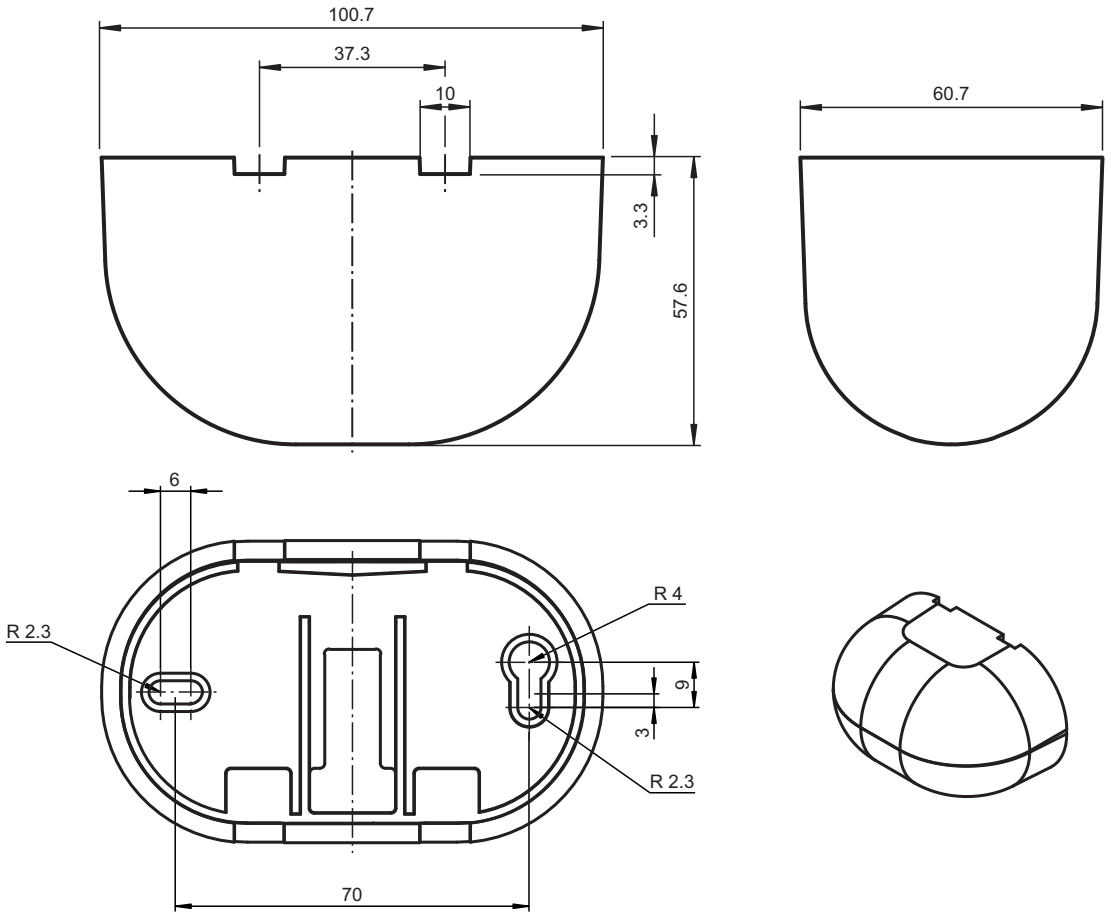
RaDec-M Silver

- 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

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

Function

Dimensions



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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		24.15 ... 24.25 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
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.
EAC conformity		TR CU 020/2011
FCC approval		No - Use in North America is not permitted.
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		Polycarbonate (PC), silver painted
Mass		130 g
Dimensions		101 mm x 60 mm x 59 mm
Suitable series		
Series		RaDec

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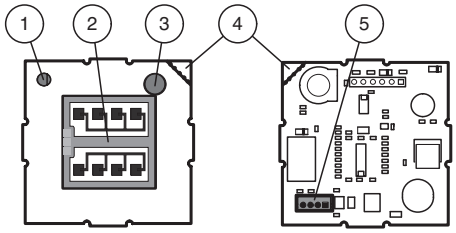
Connection Assignment

Assembly



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

Application

Accessories

	**RaDec Weather Cap Silver**	Weather hood for radar sensors series RaDec
	**RMS/RaDec Ceiling Kit wh**	Ceiling mount kit for radar sensors in the RMS and RaDec Series

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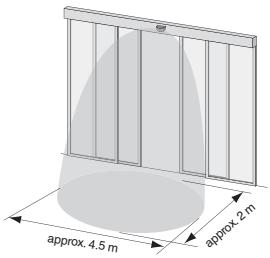
Commissioning

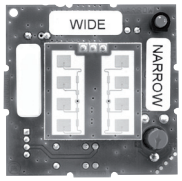
Sensing Range

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

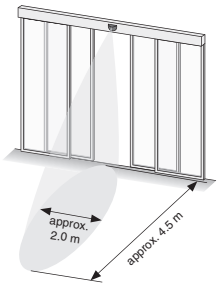
Wide:



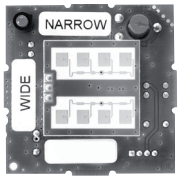
Mounting height 2200 mm / tilt angle 30°
Antenna position:



Narrow:



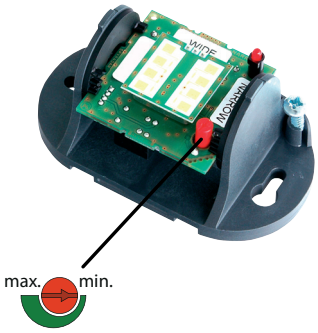
Mounting height 2200 mm / tilt angle 30°
Antenna position:

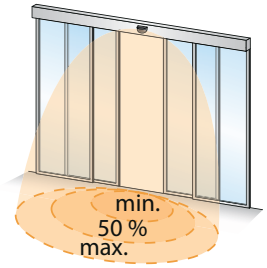


The detection field can be swivelled in 10 steps from 0° ... 90°.

Sensitivity Settings

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





Accessories

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

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

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- Impulse sensors for escalators

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