



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

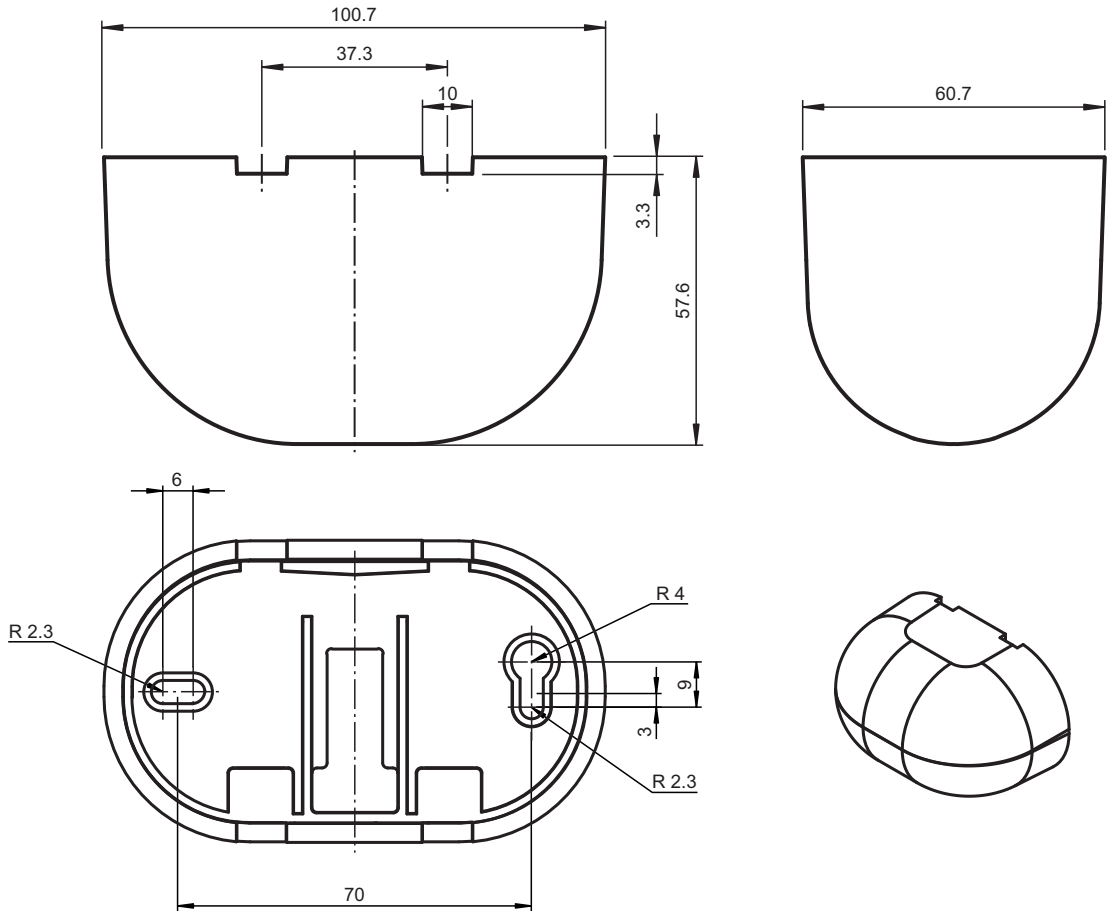
Standard radar motion sensor with basic functionality, detection range 2 m x 4.5 m, max. installation height 4 m, black housing, relay contact output, cable connection



Function

Function

Dimensions



Technical Data

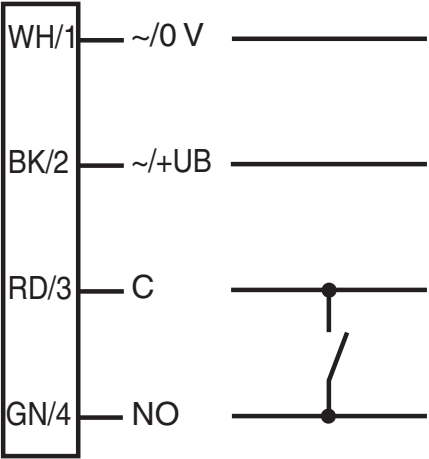
General specifications		
Sensing range		Wide: 2000 x 4500 mm (DxW) at 2200 mm mounting height and 30° inclination angle narrow: 4500x 2000 mm (DxW) at 2200 mm mounting height and 30° inclination angle
Function principle		Microwave module
Detection speed		min. 0.1 m/s
Setting angle		0 ... 90 ° in 5 ° increments
Operating frequency		24.15 ... 24.25 GHz K-Band
Operating mode		Radar motion sensor
Transmitter radiated power (EIRP)		< 20 dBm
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

Technical Data

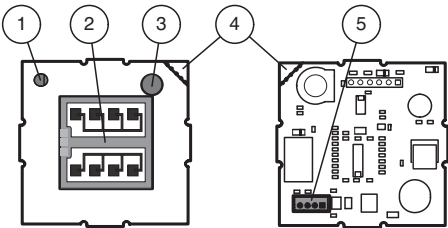
Power consumption	P ₀	≤ 1.7 W
Output		
Switching type		NO/NC
Signal output		relay
Switching voltage		max. 48 V AC / 48 V DC
Switching current		max. 0.5 A AC / 1 A DC
Switching power		max. 24 W / 60 VA
De-energized delay	t _{off}	0.5 s
Approvals and certificates		
CE conformity		2014/53/EU This device can be used in all countries within the European Union. In other countries, all applicable national regulations must be observed.
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		black polycarbonate (PC)
Mass		130 g
Dimensions		101 mm x 60 mm x 59 mm
Suitable series		
Series		RaDec

Connection Assignment

Option:



Assembly



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

Application



Accessories

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

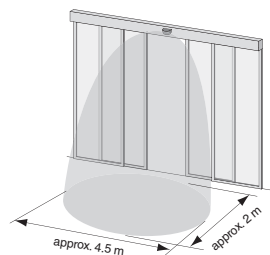
Release date: 2023-04-04 Date of issue: 2023-04-04 Filename: 214959_eng.pdf

Commissioning

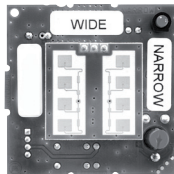
Sensing Range

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

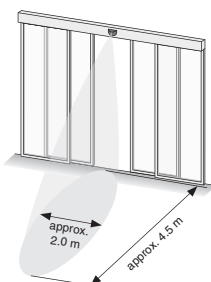
Wide:



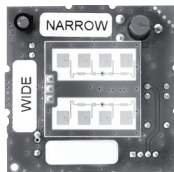
Mounting height 2200 mm / tilt angle 30°
Antenna position:



Narrow:



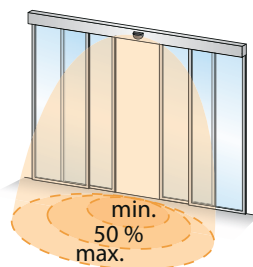
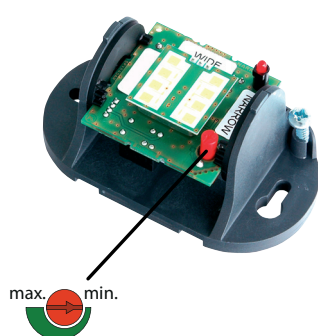
Mounting height 2200 mm / tilt angle 30°
Antenna position:



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