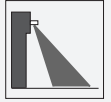


# Radar sensor

## RMS-FRW/163



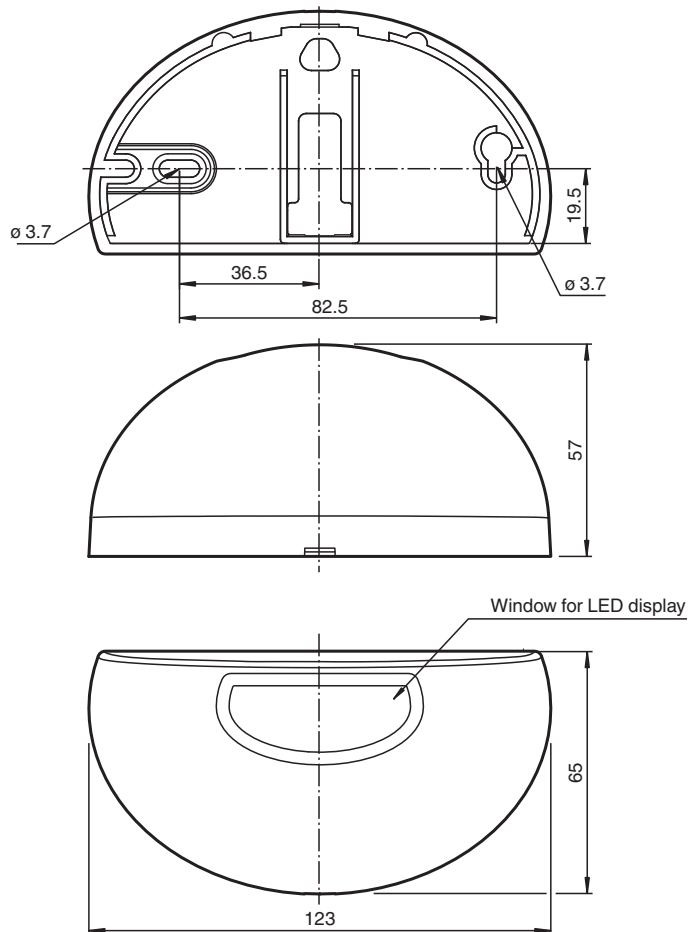
- Microwave motion sensor with integrated self-monitoring for escape and emergency routes
- Approved in accordance with AutSchR (German directive governing automatic sliding doors for rescue routes)
- Direction detection
- Cross traffic suppression
- Easily programmable
- Programmable by remote control
- Version with voltage output

Premium radar motion sensor with integrated self-monitoring for escape and emergency routes, can be operated remotely, detection range 2.5 m x 3.5 m, max. installation height 4 m, black housing, voltage output, cable connection



### Function

### Dimensions



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

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**PF** PEPPERL+FUCHS

## Technical Data

<b>General specifications</b>	
Sensing range	2500 x 3500 mm (DxW) at 2200 mm mounting height and 0° inclination angle
Function principle	Microwave module
Detection speed	min. 0.1 m/s
Setting angle	0 ... 10 ° in 5 ° increments
Operating frequency	24.05 ... 24.25 GHz K-Band
Operating mode	Radar motion sensor
Transmitter radiated power (EIRP)	< 20 dBm
<b>Functional safety related parameters</b>	
Performance level (PL)	PL d
Category	Cat. 3
MTTF <sub>d</sub>	850 a
PFH <sub>d</sub>	6.46 E-8
Diagnostic Coverage (DC)	60 %
<b>Indicators/operating means</b>	
Function indicator	LED red/green , LED Row green
Control elements	Navigation key or Programming via menu driven remote control
Factory setting	sensitivity adjustment : 7 Cross traffic suppression : 1 Immunity : 2
<b>Electrical specifications</b>	
Operating voltage	U <sub>B</sub> 12 ... 36 V DC
No-load supply current	I <sub>0</sub> < 200 mA at 24 V DC
Power consumption	P <sub>0</sub> < 3 W
Inrush current	900 mA
<b>Output</b>	
Switching type	NO/NC
Signal output	voltage output
<b>Output 2</b>	
Output type	voltage output
Output rated operating current	max. 10 mA at 3.2 V DC
<b>Compliance with standards and directives</b>	
Directive conformity	
R&TTE Directive 1995/5/EC	This device can be used in all countries within the European Union with the exception of Great Britain and France. In other countries, all applicable national regulations must be observed.
Standard conformity	
Standards	1999/5/EG; EN 62311, EN 60950-1, EN 301 489-1, EN 301 489-3, EN 300 440-2 Additionally: EN 61508; EN 13849-1; DIN EN 18650-1; DIN EN 18650-2; AutSchR 1997/12
<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. 3000 mm
Degree of protection	IP54
Connection	8-pin strip connector with cable 3 m connecting cable included with delivery
Material	
Housing	ABS, anthracite
Mass	140 g
<b>Suitable series</b>	
Series	RMS

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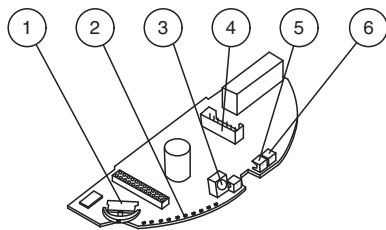
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Pin	Signal	Color
1	+12 ... 36 V DC	white
2	GND	brown
3	Uout +	green
4	Uout -	yellow
5	No Connection	grey
6	No Connection	pink
7	No Connection	blue
8	No Connection	red

### Assembly






1	Navigation button
2	Bar graph with 10 LEDs
3	IR receiver
4	Connecting plug
5	LED (red/green)
6	IR transmitter

### Application



### Accessories

	<b>RMS Weather Cap</b>	All-weather hood for RMS series microwave sensors, for ceiling and wall installation
	<b>RMS Remote Control</b>	Infrared remote control for RMS series and RAVE
	<b>RMS/RaDec Ceiling Kit wh</b>	Ceiling mount kit for radar sensors in the RMS and RaDec Series

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## Functional principle

Radar sensors are microwave scanners that adopt the principle of the Doppler radar. The most important requirement for microwave detection is that the object to be detected is moving.

The radar 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.

The microwaves emitted by the emitter are reflected back from the ground or other surfaces to the receiver. If there is no motion in the monitored zone, the emitted and reflected frequencies are identical. Nothing is detected. If people, animals, or vehicles are moving in the monitored zone, the reflected frequency changes and triggers a detection.

Based on the latest 24 GHz technology with integrated microprocessor control, these sensors provide a high level 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 sensor for automatic doors and industrial doors in escape and emergency routes
- Motion sensor for people and objects