



CE06820



**Model Number**

**RMS-FRW/31**

Radar sensor

**Features**

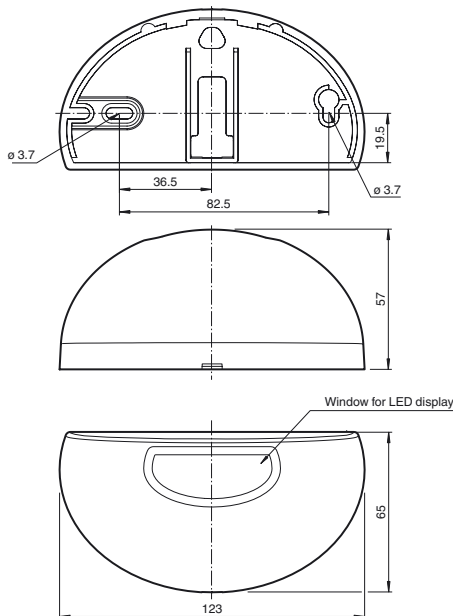
- Microwave motion sensor with integrated self-monitoring for escape and emergency routes
- Approved in accordance with Aut-SchR (German directive governing automatic sliding doors for rescue routes)
- Direction detection
- Cross traffic suppression
- Easily programmable
- Programmable by remote control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

**Product information**

The RMS-FRW radar motion sensors for escape and emergency routes have been tested and certified by TÜV Nord; the sensors are self-monitoring and fulfill the Aut-SchR and the requirements specified in EN ISO 13849-1 Category 3, as well as SIL 2 specified in EN 61508. The sensors have TÜV Nord approval for use along exit and emergency routes. Ultramodern 24 GHz technology guarantees a variety of detection field sizes and a wide range of applications, even in difficult conditions. The microcontroller evaluation provides the sensor with intelligent functions such as rotation direction monitoring and cross-traffic suppression. Three different versions with various output signals allow use with all common door controllers and door drives.

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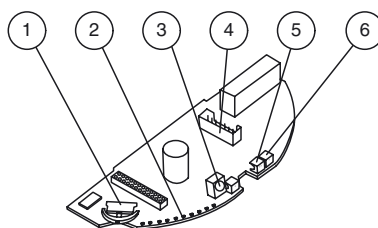
**Dimensions**



**Electrical connection**

Pin	Signal	Color
1	+12 ... 36 V DC	white
2	GND	brown
3	Relay 1	green
4	Relay 1	yellow
5	Relay 2	grey
6	Relay 2	pink
7	Test Input	blue
8	Presence output	red

**Indicators/operating means**



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

**Technical data**

**General specifications**

Sensing range	2500 x 3500 mm (D x W) at 2200 mm mounting height and 0° tilt 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

**Functional safety related parameters**

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 %

**Indicators/operating means**

Function display	LED red/green , LED Row green
Controls	Navigation key or Programming via menu driven remote control
Factory setting	sensitivity adjustment : 7 Cross traffic suppression : 1 Immunity : 2

**Electrical specifications**

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

**Output**

Switching type	NO/NC
Signal output	Relay output

**Output 1**

Output type	Relay output
Switching voltage	48 V DC / AC
Switching current	max. 1 A DC; 0.5 A AC
Switch power	30 W DC / 60 VA AC

**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. 3000 mm
Protection degree	IP54
Connection	8-pin strip connector with cable 3 m connecting cable included with delivery

**Material**

Housing	ABS, anthracite
Mass	140 g

**Suitable series**

Series	RMS
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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.

**Typical applications**

- Opening impulse sensor for automatic doors and industrial doors in escape and emergency routes
- Motion sensor for people and objects

**Detection area**



**Accessories**

**RMS Weather cap**

All-weather hood for RMS series microwave sensors, for ceiling and wall installation

**RMS Remote Control**

infrared remote control for series RMS

Other suitable accessories can be found at [www.pepperl-fuchs.com](http://www.pepperl-fuchs.com)

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