

CE06820



Model Number

RMS-FRW/164

Radarsensor

Features

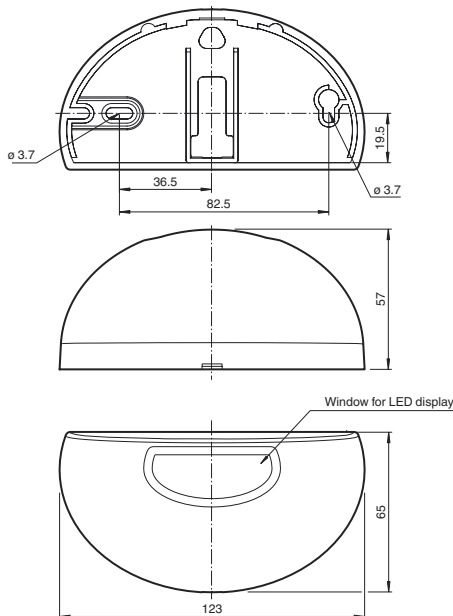
- Microwave motion sensor with integrated self-monitoring for escape and emergency routes
- Approved in accordance with Aut-SchR (German directive governing automatic sliding doors for rescue routes)
- Direction detection
- Cross traffic suppression
- Easily programmable
- Programmable by remote control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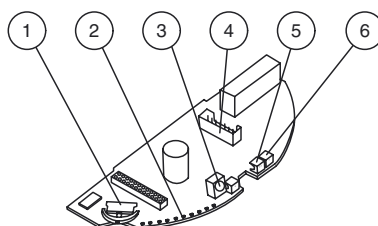
Dimensions



Electrical connection

| Pin | Signal | Color |
|-----|-----------------|--------|
| 1 | +12 ... 36 V DC | white |
| 2 | GND | brown |
| 3 | Fout + | green |
| 4 | Uin - | yellow |
| 5 | Uin + | grey |
| 6 | No Connection | pink |
| 7 | No Connection | blue |
| 8 | No Connection | 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 _d | 850 a |
| PFH _d | 6.46 E-8 |
| Diagnostic Coverage (DC) | 60 % |

Indicators/operating means

| | |
|--------------------|---|
| 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 |

Electrical specifications

| | | |
|------------------------|----------------|---------------------|
| Operating voltage | U _B | 12 ... 36 V DC |
| No-load supply current | I ₀ | < 200 mA at 24 V DC |
| Power consumption | P ₀ | < 3 W |
| Inrush current | | 900 mA |

Output

| | |
|----------------|------------------|
| Switching type | NO/NC |
| Signal output | Frequency output |

Output 3

| | |
|--------------------------------|---------------------------|
| Output type | Frequency output |
| Output rated operating current | max. 50 mA |
| Residual voltage | ≤ 2 V DC |
| Pulse/Pause ratio | 1:1 , deviation max. 10 % |
| Output frequency | 100 Hz |

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 |
|--------|-----|

Compliance with standards and directives

| | |
|---------------------------|--|
| 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 |

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

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