



### Model Number

**RMS-G-RC-HS**

Radar sensor

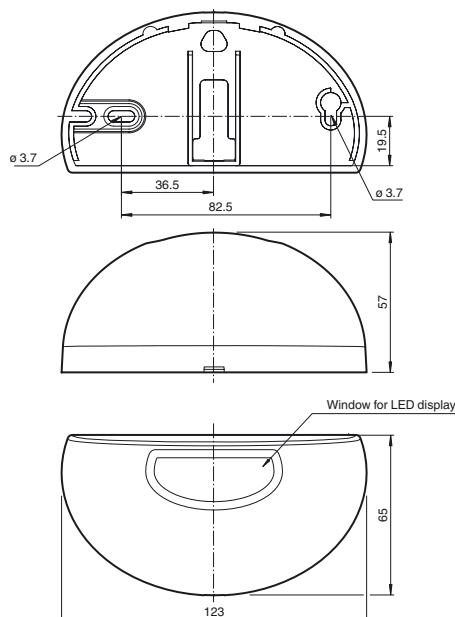
### Features

- Industrial gate opener with the ability to differentiate between people and vehicles
- Extra-wide detection area and long detection range
- Easily programmable
- Direction detection
- Version HS for vehicle detection up to 60 km/h
- Programmable by remote control

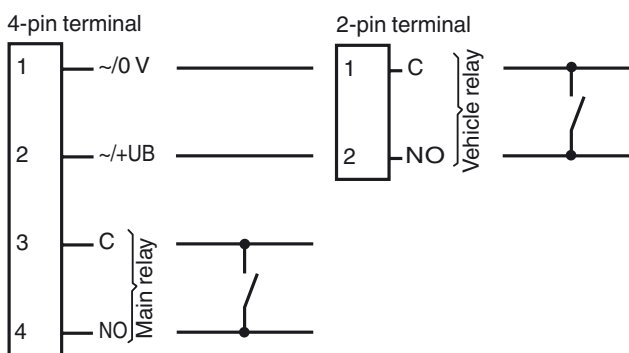
### Product information

The microprocessor-controlled microwave motion sensors based on the latest 24 GHz technology provide a high degree of reliability even in difficult operating conditions and can be used with all automatic (industrial) doors up to a height of 7 m. The RMS-G sensors are equipped with intelligent functions, such as vehicle detection, to enable them to be used in a wide variety of applications. The special industrial door microwave sensor can be configured so that the industrial door only opens when a vehicle approaches it, while passing pedestrians are ignored. The sensor differentiates between people and vehicles.

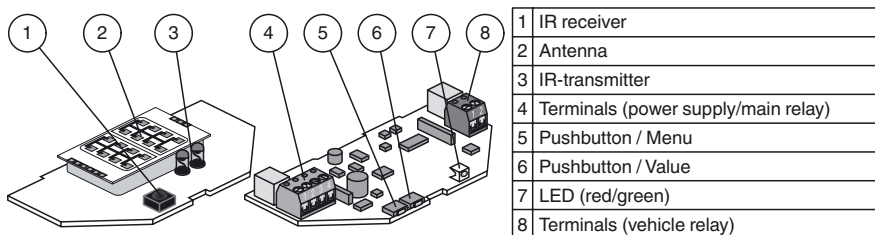
### Dimensions



### Electrical connection



### Indicators/operating means



## Technical data

### General specifications

Sensing range	7000 x 6000 mm (DxW) at 5000 mm mounting height and 30° tilt angle 8000 x 5000 mm (DxW) at 7000 mm mounting height and 30° tilt angle
Function principle	Microwave module
Detection speed	min. 0.1 m/s , max. ... 16.7 m/s (60 km/h)
Setting angle	0 ... 40 ° in 5 ° increments
Operating frequency	24.05 ... 24.25 GHz K-Band
Operating mode	Radar motion sensor
Transmitter radiated power (EIRP)	< 20 dBm

### Indicators/operating means

Function indicator	LED red/green
Control elements	Programming push-button for selection of operating modes : Direction detection , Cross traffic suppression , Vehicle detection , Switching type
Control elements	Adjustment for off delay
Control elements	Programming via 2 keys , alternative via remote control (Accessories ordered separately)

### Electrical specifications

Operating voltage	U <sub>B</sub>	12 ... 36 V DC , 12 ... 28 V AC
No-load supply current	I <sub>0</sub>	≤ 50 mA at 24 V DC
Protection class		III, when operating on safety low power
Power consumption	P <sub>0</sub>	≤ 1 W

### Output

Switching type	NO/NC	
Signal output	2 relay outputs	
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 <sub>off</sub>	0.2 ... 5 s adjustable

### Directive conformity

Radio and telecommunication terminal equipment	
Directive 2014/53/EU	yes This device can be used in all countries within the European Union. Use in North America is not permitted. In other countries, all applicable national regulations must be observed.

### 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. 7000 mm
Degree of protection	IP54
Connection	plug-in screw terminals 4-pin and 2 pin , 8 m connecting cable included with delivery
Material	
Housing	ABS, anthracite
Mass	120 g
Dimensions	123 mm x 65 mm x 57 mm

### Suitable series

Series	RMS
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### 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.

## Functional Principle

Radar sensors are microwave sensors that adopt the principle of Doppler radar. The most important requirement for radar 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 within the specified velocity range of the radar sensor.

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 objects are moving in the monitored zone, the reflected frequency changes and therefore 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 operational conditions. The 24 GHz frequency, known as 'K-band,' is reserved by CETECOM for this application area all round the world.

The RMS-G series of sensors are equipped with intelligent functions to enable them to be used in a wide variety of applications. The cross-traffic suppression system can be configured so that the door only opens when vehicles or people approach it, while passing pedestrians are

## Typical applications

- Opening impulse sensor for industrial doors
- Motion sensor for people and objects
- Activation sensors for detecting vehicles traveling at a maximum of 60 km/h (RMS-G-RC-HS)

## 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 RMS series and RAVE

### RMS/RaDec Ceiling Kit wh

Ceiling mount kit for radar sensors in the RMS and RaDec Series

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

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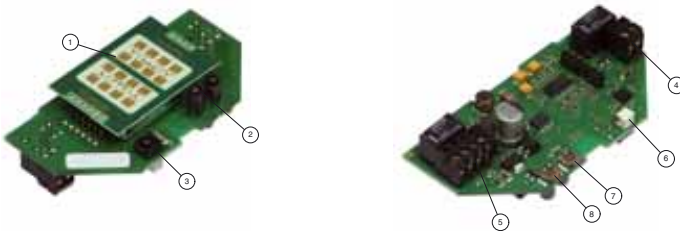
With direction detection, the opening impulse can be triggered based on the direction of motion. Depending on the setting, only movements towards or away from the sensor are detected.

## Settings

The sensor RMS-G-RC-HS is adjusted in programming mode directly on the device via two keys: --> 8 = key/menu; 7 = key/value. The flash sequence of the LED indicates the respective settings.

By means of the RMS remote control, which is available as an accessory, the sensor can be easily and quickly programmed from the ground in an optimum manner. The bidirectional infrared remote control with LDC display and self-explanatory menu navigation has a range of 10 m. Thus, also sensors with high mounting heights can be precisely and conveniently adjusted.

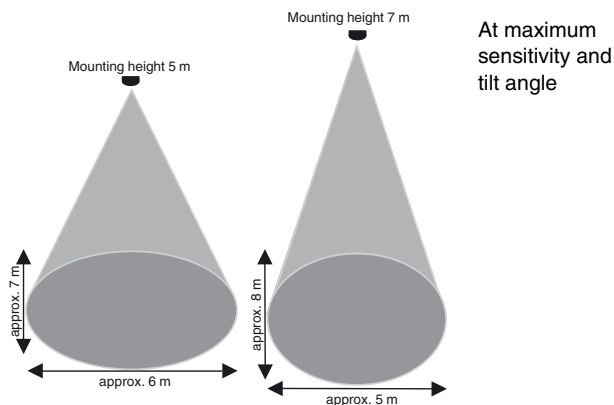
Order code: **RMS Remote control**



- 1) Antenna
- 2) IR emitter diodes
- 3) IR receiver diodes
- 4) Screw terminal (vehicle relay)
- 5) Screw terminal (voltage/main relay)
- 6) Display LED
- 7) Key/value
- 8) Key/menu

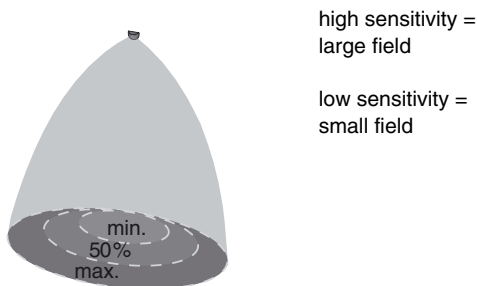
The following properties can be adjusted:

### 1. Dimensions of the detection field



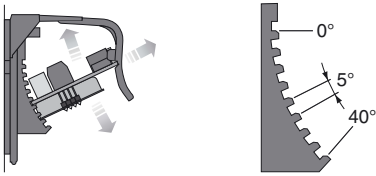
### 2. Dimensions of the detection field

By adjusting the sensitivity by means of the keys or remote control, the size of the detection field can be changed.



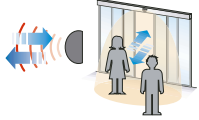
### 3. Position of the detection field

The detection field can be rotated in 5 steps from 0° to 40°. The printed circuit board may also be installed at an angle.



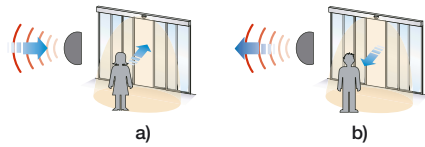
#### 4. Detection without direction detection

forward / backward



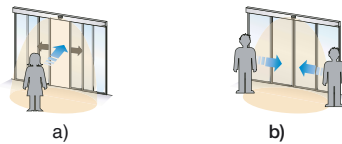
#### 5. Detection with direction detection

- a) forward (towards the radar)
- b) backward (away from the radar)



#### 6. Suppression of crossing traffic

- a) door opens
- b) door remains closed



#### 7. Person, vehicle detection

The sensor evaluates the movements of persons or vehicles in a different way and, depending on the setting, it switches the main relay or both relays simultaneously.

The differentiated person/vehicle detection makes it possible to open gates for vehicles only. Approaching persons must use the side entrance.

#### 8. Relay functions

The main relay always switches, i.e. when detecting objects and vehicles.

The vehicle relay only switches when vehicle detection is switched on and when a vehicle is detected.

#### Function indicator



<b>LED green</b>	Device ready to operate
<b>LED red</b>	Main relay switched
<b>LED green/red flashing quickly</b>	Vehicle relay switched
<b>LED green/red flashing slowly</b>	Initialisation (for approx. 10 secs. after switch-on)
<b>LED green flashing</b>	Command received
<b>LED red flashing</b>	Error