Technical Data

Functional principle	Microwave module
Detection speed	Min. 0.1 m/s
Marking	CE / FCC
Inclination angle	0 ... 40° in 5° steps
Detection range	6000 mm x 7000 mm (WxD) at installation height of 5000 mm and inclination angle of 30° 5000 mm x 8000 mm (WxD) at installation height of 7000 mm and inclination angle of 30°
Operating frequency	24.15 GHz ... 24.25 GHz K band
Operating mode	Radar motion sensor
Function indicator	Red/green LED
Operating elements	Two pushbuttons for programming of direction detection, vehicle detection, switching mode, size of detection area, adjuster for fall time
Operating voltage	12 VDC ... 36 VDC / 12 VAC ... 28 VAC
No-load current	< 50 mA at 24 VDC
Power consumption	< 1 W
Switching mode	Active/passive
Signal output	2 relay outputs, NO/NC
Switching voltage	Max. 48 VAC / 48 VDC
Nominal power	Max. 0.5 AAC / 1 ADC
Max. switching current	1 A
Switching power	Max. 24 W / 60 VA
Fall time	0.2 s ... 5 s, adjustable
Ambient temperature	-30 °C ... +60 °C / 243 K ... 333 K
Relative humidity	Max. 90 %, not condensing
Mounting height	Max. 7000 mm
Degree of protection	IP 54
Connection	4-pin plug-in screw terminals, 8 m connection cable, 2-pin and 4-pin
Housing material	Polycarbonate (PC), ABS
Mass	120 g
Transmitting power (EIRP)	< 13 dBm
Dimensions excluding securing parts	123 mm (w) x 65 mm (h) x 57 mm (d)

Troubleshooting

Fault	Corrective action
Gate is detected.	Decrease the size of the detection area. Change the inclination angle.
LED not lit up.	No power supply, device not functioning.
Remote control does not respond	Device is locked. Switch the operating voltage off and on again. The sensor can now be configured without a code for 30 minutes. Check the remote control battery.

Pepperl+Fuchs Group is certified according to ISO 9001.

ISO9001 CE EAC For RMS-G-RC

Factory Settings

Function	Setting
Detection area size	Remote control: 8
Inclination angle	15°
Direction detection	Forward
Fall time	1 s
Relay contact	NO contact, active
Cross-traffic suppression	Remote control: Medium
Vehicle detection	Medium

Conformity with Standards

EU conformity: Pepperl+Fuchs Group hereby declares that the radio system type RMS-G-RC complies with Directive 2014/53/EU.
The full declaration of conformity is available at www.pepperl-fuchs.com.
US and Canada conformity: The product RMS-G-RC is compliant with Part 15 of the FCC regulations and with RSS-310 of Industry Canada.

Accessories

RMS Weather Cap	Mounting set and weather protective cover
RMS/RaDec Ceiling Kit wh	Ceiling mount kit

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PEPPERL+FUCHS

Brief Instructions: Radar Motion Sensor for Detecting Objects at Automatic Gates

General Information for Your Safety

This device must be installed and maintained only by qualified, trained personnel.

Observe the safety requirements of EN 60950-1. Operate the sensor only with an SELV supply with a limited output of up to 100 W. Use a T2.5 A fuse, for example, to reliably limit the power output.

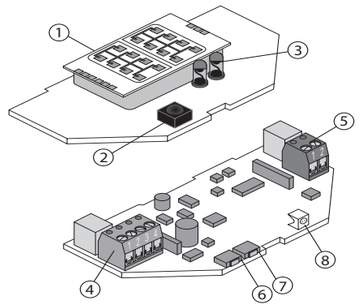
Product Information

Scope of delivery

Quantity	Designation
1	RMS-G-RC
1	Connection cable with plug
1	Self-adhesive drilling template
2	Screws for mounting
1	Mounting instructions

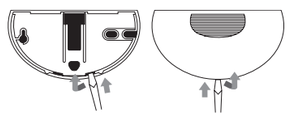
Operating elements

① Antenna
② IR receiver
③ IR transmitter
④ Terminal (power supply/main relay)
⑤ Terminal (vehicle relay)
⑥ Programming button / menu
⑦ Programming button / value
⑧ LED (red/green)



Installation

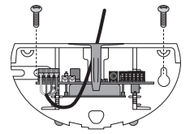
Opening the device



1. Insert the screwdriver into the opening provided and carefully push open the cover.
2. Fold up the cover and remove it toward the front.

Do not open the housing from the top.

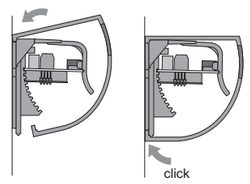
Mounting the device



1. Attach the self-adhesive template and drill according to the markings on the template.
2. Pull the cable through the opening provided.
3. Fasten the base plate using the screws (screws are in the housing).

Can be mounted on the ceiling using the RMS Weather Cap
(see accessories)

Closing the device



Attach the cover on the top
and press down until it snaps into place.

Connecting the radar

Connect the cable to the terminal as follows:

Power supply/main relay

① AC/DC supply (brown)
② AC/DC supply (green)
③ Main relay (white)
④ Main relay (yellow)

Vehicle-presence relay

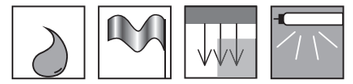
① Vehicle relay (gray)
② Vehicle relay (pink)

Commissioning

Before switching on the device, remove all objects from the gate area that do not normally belong there.

After applying the operating voltage, the hardware and software are initialized.
This process takes approx. 10 seconds.
The LED flashes red/green.
Once this process is complete, configure the radar. Check the settings by walking within range of the radar.

Installation information



- Protect the radar from rain*.
- Avoid placing moving objects in the detection area (fans, plants, trees, flags).
- Do not cover the radar. Mechanically operated drive components may affect the radar.
- Avoid fluorescent lights in the detection field.

To meet UL508 requirements, a 2.5 A slow-blow fuse should be used between the device and the power supply.

* Installation of the RMS Weather Cap is recommended (see accessories).

Detection Field Settings

Antenna characteristics

Installation height: 5.00 m
Width: 6.00 m
Depth: 7.00 m

Installation height, 7.00 m
Width: 5.00 m
Depth: 8.00 m

Angle of inclination 30°
Size of detection area Max.

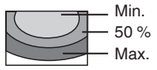
Inclination angle

You can change the position in 5° steps. To do so, hold the PCB at the side, turn toward the front and move to the required position. The factory setting is 15°.

Inclined detection area

The PCB can also be inserted at an angle, up to 3 notches to the right or left. Notches can also be removed.

Detection area size



Use the programming buttons or remote control to set the sensitivity and change the size of the detection area.

Detection Capabilities

Direction detection

No direction detection

With direction detection forward (toward the radar)

With direction detection backward (away from the radar)

LED Status Indicator

Color indicator	Status
G Green	Device ready for operation
R Red	Detection active
G Green flashing	Command received
R Red flashing	Fault
R/G Red/green flashing in quick succession	Vehicle relay is activated
R/G Red/green flashing slowly	Initialization after switching on

⚠ Some installation situations may limit the adjustment options and the functions of the sensor.

Vehicle Detection

The sensor evaluates movements of people or vehicles in different ways and switches the relay.

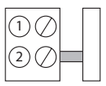
Relay function

The sensor always switches the main relay when people are detected and when vehicles are detected.

The sensor only activates the vehicle relay if vehicle detection is activated, a vehicle is detected, and there are no people in the detection area.

Application example: Gate with separate entrance for pedestrians

Gate control with one switching input. Vehicle detection is switched on.
Only the vehicle relay is connected.



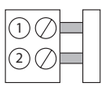
① Main relay
② Vehicle relay

Person approaches:
- Vehicle relay is not activated
- Gate remains closed
- Person uses side entrance

Vehicle approaches:
- Vehicle relay is activated
- The LED flashes red/green in quick succession
- The gate opens

Application example: Gate with no separate entrance for pedestrians

Gate control with two switching inputs. Vehicle detection switched on.
Main relay and vehicle relay are connected.



① Main relay
② Vehicle relay

Person approaches:
- Main relay is activated
- LED lights up red
- The gate opens half-way

Vehicle approaches:
- Vehicle relay is activated
- The LED flashes red/green in quick succession
- The gate opens

Programming Mode

Program the sensor using the MENU and VALUE buttons. When one of these buttons is pressed, the flash code is interrupted. The set value is output in accordance with the table below. Once the final table entry (7) has been reached, the next press of a button calls up the first table entry (1) again.
Each time a button is pressed, the setting is automatically stored.
Programming mode is exited automatically if no setting is made within ten minutes. The set values are stored.

Starting programming


MENU

2 s

Press and hold the MENU button for approximately two seconds.
Programming mode is activated.
The LED indicates the settings by flashing:
- Red flashing indicates the function
- Green flashing indicates the setting (value)
- No flashing indicates that the function is switched off

R G

Setting the function and value


MENU

1x

Press the MENU button once.
The next function is selected.


VALUE

1x

Press the VALUE button once.
The value is increased by 1.

Stopping programming


MENU

2 s

Press and hold the MENU button for approximately two seconds.
Programming mode is exited.
The settings are stored.

Programming example: changing the relay fall time from 1.0 s to 3.0 s

Function/setting	Action	LED
 MENU 2 s	Press and hold the MENU button for two seconds. Programming starts	
LED flashes	The current value is read out, e.g.: 1x red for function: sensitivity 8x green for value: 8	R G 1x 8x
 MENU 3x	Set the function: Press the MENU button three times.	
LED flashes	4x red for function: fall time for output 3x green for value: 1.0 s	R G 4x 3x
 VALUE 3x	Set the value: Press the VALUE button three times.	
LED flashes	4x red for function: fall time for output 6x green for value: 3.0 s	R G 4x 6x
 MENU 2 s	Press and hold the MENU button for two seconds. Programming is ended. The settings are saved.	

Check the settings of the programming buttons by walking within range of the sensor

Function (MENU)	R	Setting (VALUE)	G	Description
Detection area size	1x	1 ... 16	1 ... 16x	1: Small detection area 16: Large detection area
Detection mode	2x	Off Forward Backward	0x 1x 2x 3x	No detection Direction detection: Detects movements toward the radar Direction detection: Detects movements away from the radar No direction detection: Detects forward and backward movements
Vehicle detection	3x	Off Low Medium High	0x 1x 2x 3x	No detection; the vehicle relay is not activated Low vehicle detection Medium vehicle detection High vehicle detection
Fall time for output	4x	Off 0.2 s 0.5 s 1.0 s 1.5 s 2.0 s 3.0 s 4.0 s 5.0 s	0x 1x 2x 3x 4x 5x 6x 7x 8x	Off: Relay is not activated 0.2 s: Shortest fall time 5.0 s: Longest fall time
Relay contact	5x	Closing active Opening passive	1x 2x	Relay contact closes on detection (N. O.) Relay contact opens on detection (N. C.)
Cross-traffic suppression	6x	Off Low Medium High	0x 1x 2x 3x	No cross-traffic suppression Low cross-traffic suppression Medium cross-traffic suppression High cross-traffic suppression
Device addresses	7x	1 ... 16	1 ... 16x	Device addresses for programming with remote control.
Reset	2 s MENU 2 s VALUE	Press the VALUE and MENU buttons together for approx. 2 seconds.		Reset to factory settings The LED flashes green/red alternately for approx. 10 seconds