



HANDBUCH / MANUAL / MANUAL / MANUALE

Radar-Bewegungsmelder

Radar Motion Sensor

Avisador de movimientos radar

Rilevatori di movimento radar

RMS-D, RMS-D-RC, RMS-D BROAD

RMS-D-NA, RMS-D-RC-NA



Inhalt / Content / Contenido / Indice

Deutsch	3
English	31
Espanol	59
Italiano	87

Es gelten die Allgemeinen Lieferbedingungen für Erzeugnisse und Leistungen der Elektroindustrie,
herausgegeben vom Zentralverband Elektrotechnik und Elektroindustrie (ZVEI) e.V.
in ihrer neuesten Fassung sowie die Ergänzungsklausel: "Erweiterter Eigentumsvorbehalt"

1	Introduction	32
1.1	Warranty	32
2	Declaration of Conformity	34
3	Safety	35
3.1	Symbols Used	35
3.2	General Safety Instructions	36
4	Description of Product	37
4.1	Indicators and Controls	38
4.2	Scope of Delivery	39
4.3	Accessories	39
5	Installation	40
5.1	Storage and Transport	40
5.2	Unpacking	40
5.3	Mounting and Connecting the Device	40
6	Set-up	41
7	Operation	42
7.1	Setting the Sensing Area	42
7.2	Setting with DIP switches and Potentiometer	43
7.3	Setting Additional Functions	47
7.4	Settings with RMS Remote Control	51
8	Maintenance and Repair	55
9	Troubleshooting	55
10	Appendix	56
10.1	Technical Data	56
10.2	Dimensional Drawing	58
10.3	Factory Settings	58

1 Introduction

Congratulations

You have decided to buy a Pepperl+Fuchs device. Pepperl+Fuchs develops, produces and sells electronic sensors and interface modules worldwide for the automation technology market.

Contact

If you have questions about the device, accessories or more extensive functions, please contact:

Pepperl+Fuchs GmbH

Lilienthalstraße 200

68307 Mannheim

Telephone: 0621 776-1111

Fax: 0621 776-271111

E-mail: fa-info@de.pepperl-fuchs.com

1.1 Warranty

Pepperl+Fuchs manufactures its hardware products according to standard practices of the industry.

Pepperl+Fuchs guarantees that its products are free of material and processing errors provided the products are used under the normal operating conditions specified by the manufacturer. The warranty applies only to the original owner and cannot be transferred to third parties. All accompanying exclusions of liability, restrictions, and other conditions of this section apply to this warranty.

Exclusions of liability

No warranty received or granted here shall apply to products that

- Have been repaired or modified or tampered with, unless it was done by or with the approval of Pepperl+Fuchs
- Have not been maintained in accordance with the instructions for operation and handling provided by Pepperl+Fuchs
- Have been exposed to unusual physical or electrical loads, immersed in liquids or exposed to any of the following circumstances:
 - Electrical breaking
 - Crushing

- Improper use
 - Misuse
 - Low current
 - Unsuitable power supply
 - Reverse polarity
 - Negligence or accident
- Have been used for any purpose other than specified in the instructions for operation and handling. Preventive maintenance is the customer's responsibility and is not covered by this warranty.

General

With the exception of the guaranties named above, Pepperl+Fuchs makes no warranty in any form for the products delivered below whether explicit or implicit in nature, including but not limited to implicit defect guaranties, any warranty of suitability for a specific purpose, or absence of injury. The explicitly noted guaranties replace all obligations or liabilities of Pepperl+Fuchs for damages, including but not limited to concrete damages, indirect damages, or consequential damages associated with the use or version of the product. The seller's liability to the buyer and other persons (regardless of the reason for liability, whether through contract, warranty, impermissible handling, misuse and/or other causes) associated with the use of a product shall in no case exceed the original purchase price of the product. In no case shall Pepperl+Fuchs be liable for consequential, concrete, or indirect damages, secondary damages or fines, or for lost profits and sales or lost data, even if Pepperl+Fuchs had been made aware of this possibility.

2 Declaration of Conformity

We, Pepperl+Fuchs GmbH, hereby declare on our sole responsibility that

Radar motion sensors RMS-D, RMS-D-RC, RMS-D BROAD, RMS-D-NA, RMS-D-RC-NA

and all models of this product to which this declaration refers are in conformity with the following standards and other regulatory documents

complies with FCC Rules Part 15 (only RMS-D-NA, RMS-D-RC-NA); R&TTE Directive 1999/5/EG; Symbol CE0682!; EMC Directive 2004/108/EG; DIN EN 61000-6-1:2001; DIN EN 61000-6-2:2001; DIN EN 61000-6-3:2001; DIN EN 61000-6-4:2001; DIN EN 12978:2003; DIN EN 61496-1:2005; DIN EN 60335-1:2007; DIN EN 60950:2000; EN 301489-3 V1.4.1; DIN EN 300440-1 V1.3.1(2001-09); DIN EN 300440-2 V1.1.1 (2001-09); IC-NIRP Guidelines (1998-04); BGR 232:1989

Product family standard: Electromagnetic Compatibility (EMC for light industry and industry)



The declaration of conformity for this product can be requested from the manufacturer.

Pepperl+Fuchs GmbH in D-68301 Mannheim has a certified quality assurance system in conformity with ISO 9001.




CE0682 ⓘ



3 Safety

3.1 Symbols Used

Safety-related symbols

	<p>Danger! This symbol identifies an immediate and present danger. Failure to observe this warning may result in personal injury or even death.</p>
	<p>Warning! This symbol warns of a possible malfunction or hazard. Failure to observe this warning may result in personal injury or extensive damage to property.</p>
	<p>Caution! This symbol warns of a possible malfunction. Failure to observe this warning may result in malfunctioning of devices or systems connected to them, including complete malfunction.</p>

Informative symbols



Note!
This symbol draws your attention to important information.



Instruction telling you what to do
This symbol marks instruction for action.

3.2 General Safety Instructions

The system operator is responsible for planning, mounting, set-up, operation, and maintenance of the system. Installation and set-up of all devices must only be performed by personnel specially trained for that purpose.

The protection of the system and operating personnel is not ensured if the module is not used according to its intended purpose.

Observe the applicable laws and directives for the use or planned purpose of the device. The devices are only approved for proper use in accordance with intended purpose. Any other use voids all warranty claims and manufacturer's responsibility.

Use only recommended original accessories.

If you cannot eliminate malfunctions, take the device out of service. Secure the device against accidental operation. Return the device to Pepperl+Fuchs for repair. Independent interventions and modifications are potentially hazardous, and will void any guarantee and manufacturer's liability.

When the device is no longer useful, dispose of it in keeping with applicable national legal regulations. For example, dispose of the sensor as electronics waste at a designated collecting station.



The RMS device should be used with a 2.5 A slow-blow fuse in series with the power input to comply with UL508.



This device should only be used with voltages compliant with the Safety Extra-Low Voltage (SELV) requirements as defined in the IEC 60950 safety standard. The device should only be installed and maintained by trained and qualified personnel.

4 Description of Product

Radar sensors operate on the Doppler effect, which is analogous to what is experienced in highway traffic: the frequency of emergency or police vehicle sirens in oncoming traffic first increases (tone rises) until the vehicle is at close proximity, then decreases (tone falls) as the vehicle moves away in the other direction. An important requirement for radar detection is the movement of the object being detected. This implies interesting application possibilities in terms of controlling automatic doors and gates.

Intelligent motion detectors think along with you ...

Motion detectors based on the latest 24-GHz technology with microprocessor control ensure a high level of reliability under difficult usage conditions. The 24-GHz frequency in the so-called K-band is reserved worldwide by CETECOM for this application field.

RMS Radar motion detectors come in compact, tamper-proof housings made of ABS, which are resistant to vibrations, extraneous light and temperature effects in the range from -20 °C ... +60 °C.

RMS series motion detectors can respond flexibly to a wide range of requirement profiles with intelligent functions such as direction detection, masking of cross-traffic and "Turtle mode." Cross-traffic masking is very useful for example in narrow streets and walkways around retail establishments.. The system is configured so that the door only opens when persons move towards it, while ignoring others who are just passing by.

High on comfort, low on heating and air conditioning costs

Direction detection is used to generate the opening pulse depending on the direction of motion. Depending on the setting, only movements towards or away from the sensor are recognized. This makes it possible to save money on heating and air conditioning, since no unwanted signals will open the door or keep it open unnecessarily long. "Turtle mode" opens up possibilities for significant added comfort in retirement centers or hospitals. It recognizes extremely slow movements in the immediate vicinity of the closing area and can be selected for an open or closed door. In the first case, the door is kept open for slow movements. In the second case, the closed door opens even if a person is approaching so slowly that he or she would not be recognized by normal motion detection.

4.1 Indicators and Controls

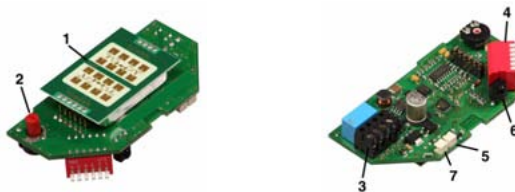


Figure 4.1: Indicators and controls

No	Model number
1	Antenna
2	Potentiometer

No	Model number
3	Screw terminals
4	DIP switches
5	LED red/green

No	Model number
6	IR receiver (RC version only)
7	IR transmitter (RC version only)

Table 4.2 Indicators and controls

4.1.1 Overview of LED Display

Switch on / initialization	
LED red/green	Description
Flashes red / green	Sensor is being initialized.

Normal mode / detection	
LED red/green	Description
Lit green	Sensor is ready for operation; no detection.
Lit red	Detection by motion detector.

Operation with RMS Remote Control	
LED red/green	Description
Flashes green	Command received from remote control.

Error	
LED red/green	Description
Flashes red	Sensor has detected an error.




4.2 Scope of Delivery

Included in the delivery package:

- RMS-D
- 3 m connection cable
- Drill template (peel-off sticker)
- Screws for mounting
- Operating Instructions

4.3 Accessories

The following products are available as accessories:

No.	Model number	Figure	Description
1	RMS Remote control		Infrared remote control
2	RMS Weather cap		Weather cap and support bracket for mounting on ceilings
3	RMS Antenna broad*		Optional antenna for a wide sensing area

* not available in North America

5 Installation

5.1 Storage and Transport

Place the device in a shock-resistant container for storage and transport and protect it against humidity. The original packaging provides optimum protection. Observe permissible ambient conditions.

5.2 Unpacking

Make certain content is not damaged. In case of damage, inform the postal or shipping service and contact the supplier.

Check the parts received, comparing your order and the delivery papers.

Keep the original packaging in case the device needs to be stored or shipped again in the future.

If you have any questions, please contact Pepperl+Fuchs.

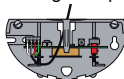
5.3 Mounting and Connecting the Device



Mounting the RMS-D

To mount the sensor, follow these steps:

1. Open the housing with a slotted screw driver from below.
There is an indentation on the bottom of the housing.
Do not open the housing from the top!
2. Apply the self-adhesive drill template (included with device) onto the required mounting position.
3. Drill through the drill template according to instructions.
4. Pull the cable included with delivery through the provided opening for this purpose.



5. Mount the base plate using the screws enclosed in the housing.



Advice for Types RMS-D-NA and RMS-D-RC-NA:

The RMS device should be used with a 2.5 A slow-blow fuse in series with the power input to comply with UL508.



Connecting the RMS-D

The sensor is connected to power through the connection cable. The relay contact is also connected to the cable. Follow these steps:

1. Connect the cable to the power supply.
2. Connect the cable to the screw terminals on the sensor's circuit board.
3. Connect the controller (door control) with the relay contact for the motion detector. Use the corresponding cable wires from the RMS-D for this.
4. For all other steps, see the section on set-up (see Section 6)
5. After all settings have been made on the sensor, push the cover over the base plate. Hook the cover onto the upper end of the base plate and press the cover until it clicks into place.

The pin assignment of the screw terminals is as follows:

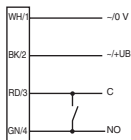


Figure 5.1: Connection layout

6 Set-up

Make certain when switching on the RMS-D that all objects that do not belong in the normal environment of the door are removed.



Set-up

To place the sensor in operation, follow these steps:

1. Turn on the power supply.
2. Wait until the red / green LED on the sensor is no longer flashing (10 seconds)
3. Set the desired size and position of the sensing area on the RMS-D.
4. Check the settings by walking through the sensing area.

You can also program the sensor with the RMS remote control if the sensor model number includes -RC, even if the cover is in place. In this case the sensor address must be set previously.

7 Operation

You can download a selection of Comfort settings on the Internet from www.pepperl-fuchs.com.

7.1 Setting the Sensing Area

To adjust the position of the sensor, hold the printed circuit board by its edge, gently pull it forward, then place it in the desired position.

The sensor's position can be adjusted in 5° increments from 0° to 40°. The default setting from the factory is 15°. Notches can be broken off to make a different angle setting. The sensor's printed circuit board can also be inserted at a slant. Do not angle the board to the right or the left by more than 3 notches from the opposite side.

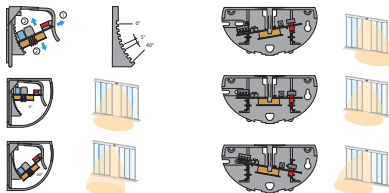


Figure 7.1: Electronics - position of options

7.1.1 Size of the Sensing Area

A wider sensing area can be achieved with an alternative plug-in antenna available as an accessory. To install, carefully remove the antenna from the retainer with two fingers and insert the new antenna into the appropriate opening. Press lightly on the antenna. (see Figure 7.2:)

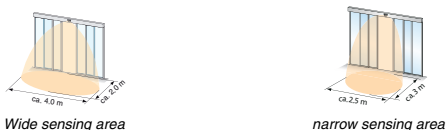


Figure 7.2:

Wide sensing area

narrow sensing area



Caution!

Do not use any metal tools to handle the antenna.

The antenna is an electrostatically sensitive component.

7.1.2 Sensitivity of the Sensing Area

You can adjust the size of the sensing area with the sensitivity potentiometer (2). The further you turn the potentiometer clockwise, the larger the sensing area









Figure 7.3: Adjustment of the sensitivity of the sensing range

7.2 Setting with DIP switches and Potentiometer

Detection mode, Turtle mode, cross-traffic masking and the relay output mode can be adjusted with the DIP switches. Sensitivity can be adjusted with the potentiometer. (for RMS-D-RC, DIP switch 6 must also be UP (ON))

7.2.1 Legend for Table / Radar Configuration

Detection properties		
Without direction detection		
With direction detection		
Cross-traffic masking		
Low or high cross-traffic masking, respectively, is enabled		
Turtle mode door open		
<p>When the door is open, the smallest movements are detected. The door does not close until no motion is detected within the set monitoring time (1/3/5 sec.). For settings of 1 second and 3 seconds, the sensitivity gradually decreases over time. For a setting of 5 seconds, detection is continuously at the highest level of sensitivity.</p>		1 second decreasing
		3 seconds decreasing
		5 seconds continuous

Turtle mode door closed

If an object has approached so slowly that it was not captured by normal motion detection, the door still opens when the object moves close to the door.



Relay contact

Active (Normally Open)

The relay contact is closed during detection

Passive (Normally Closed)

The relay contact is open during detection

DIP switches position














DIP switch UP -> ON
DIP switch DOWN -> OFF



7.2.2 Table of Standard Profiles

No.	RMS-D	RMS-D-RC	Detection characteristics	Cross-traffic masking	Turtle mode Door open	Turtle mode Door closed
1				-	-	-
2					-	-
3						-

4					-	-
5						
6				-		-
7				-		-
8				-	-	-
9				-	-	-
10					-	-
11						-
12					-	-
13				-		-
14				-		-

15				-		
16				-		-
			Active, relay contact closes during detection (N. O.)			
			Passive, relay contact opens during detection (N. C.)			

7.3 Setting Additional Functions

If the position of DIP switch 5 is changed during the initialization time (after power-up), the Additional functions menu is activated. The LED then flashes green.

The additional functions are:

- Set output hold time
- Adjust immunity
- Adjust field variable for Turtle mode door open
- Adjust field variable for Turtle mode door closed
- Restore factory settings (reset)



Note!

During the setting process, the position of the potentiometer changes. We therefore recommend noting the position of the potentiometer before the setting process begins so that you can restore the original value for sensitivity after the setting process is complete.



Note!

DIP switch 6 must be **UP (ON)** for **RMS-D-RC!**

7.3.1 Setting the Output Hold Time



To set the hold time (OFF delay) of the relay to the required time, follow these steps:

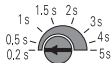
1. During the initialization time (time after the sensor's power-up when the LED is flashing red/green), change the position of DIP switch 5. The LED then flashes green.



2. To set the hold time of the relay, change DIP switch 1.



3. The hold time can be changed with the potentiometer (0.2 s, 0.5 s, 1 s, 1.5 s, 2 s, 3 s, 4 s, 5 s). During this process, the relay is continuously opened and closed for the set hold time. The LED continuously switches from green to red during this process.



4. To save the hold time, again change the position of DIP switch 1.



5. To exit, again change the position of DIP switch 5.



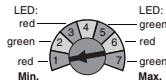
7.3.2 Setting Immunity

In principle, the sensor is immune against any interfering influences. However, special installation situations or major sources of interference may sometimes cause incorrect triggering. The immunity setting can be used to minimize various interfering influences (vibrations, reflections, fluorescence lighting etc.).



To set the immunity of the RMS-D, follow these steps:

1. During the initialization time (time after sensor's power-up when, the LED is flashing red/green), change the position of DIP switch 5. The LED flashes green.
2. To set the immunity, change DIP switch 2.
The immunity can be changed with the potentiometer. The LED indicates the set immunity.



3. To save the immunity, again change the position of DIP switch 2.
4. To exit, again change the position of DIP switch 5.

7.3.3 Setting of Field Variable for Turtle Mode Open



To set the field variable for Turtle mode open, follow these steps:

1. During the initialization time (time after sensor's power-up when, the LED is flashing red/green), change the position of DIP switch 5. The LED flashes green.
2. To set the field variable Turtle mode open, first change the positions of DIP switch 3 and then DIP switch 1.
3. The field variable can be changed with the potentiometer. The LED indicates the set field size.



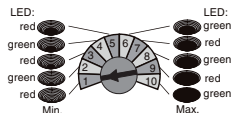
4. To save the field variable, first again change the position of DIP switch 1 and then DIP switch 3.
5. To exit, again change the position of DIP switch 5.

7.3.4 Setting Field Variable for Turtle Mode Closed



To set the field variable for Turtle mode closed, follow these steps:

1. During the initialization time (time after sensor's power-up when, the LED is flashing red/green), change the position of DIP switch 5. The LED flashes green.
2. To set the field variable Turtle mode closed, first change the positions of DIP switch 3 and then DIP switch 2.
3. The field variable can be changed with the potentiometer. The LED indicates the set field size.



4. To save the field variable, first change the positions of DIP switch 2 and then DIP switch 3.
5. To exit, change the positions of DIP switch 5.

7.3.5 Restore Factory Settings (Reset)



To restore the factory settings, follow these steps:

1. During the initialization time (time after sensor's power-up when, the LED is flashing red/green), change the position of DIP switch 5. The LED flashes green.
2. To restore the factory setting, change the position of DIP switch 4. The LED flashes red.
3. To confirm the function, change the positions of DIP switch 4 to its original position. The sensor is reset to the factory settings and then restarted (reset).
4. After the initialization time has elapsed, again change the positions of DIP switch 5 back to its original position.

7.4 Settings with RMS Remote Control

7.4.1 Setting with RMS Remote Control (for RMS-D-RC Version)

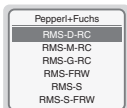
Please read the RMS Remote Control operating instructions before programming.

The sensor can be optimally programmed easily and quickly from the ground by remote control. The sensor functions even in programming mode. The programming can be checked immediately. To activate the mode, for the RMS-D-RC DIP switch 6 must be in the "DOWN (OFF)" position!

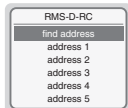
When used with the remote control, the sensor's potentiometer and DIP switch 5 have no function. DIP switches 1 ... 4 are used to set the sensor address.

7.4.2 Establishing the Connection

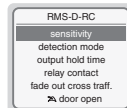
Establishing connection without code



Select sensor "RMS-D-RC"



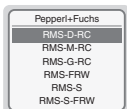
Select address



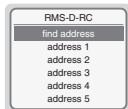
Adjust sensor



Establishing connection with code



Select sensor "RMS-D-RC"



Select address



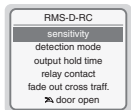
Enter 4-digit code



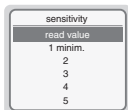
Adjust sensor

7.4.3 Adjusting the Sensor

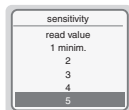
(See Section 10.3 for Factory Default settings)



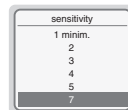
Select "Sensitivity"



Select menu option
"Read value"



The current value
is displayed



Set the value



Menu	Settings	Description
Sensitivity	1 - 16	1 Smallest sensing area 16 Largest sensing area
Detection mode	Off Direction detection forward Direction detection backward Without direction detection	Detection no longer possible Detects movements towards sensor Detects movements away from sensor Detects forward and backward movements
Output hold time (Off Delay)	Off 0.2 s 0.5 s 1 s 1.5 s 2 s 3 s 4 s 5 s	Off relay not switched
Relay contact	N.O. active N.C. passive	Relay contact closes on detection (N. O.) Relay contact opens on detection (N. C.)
Cross-traffic masking	Off 1 - 10	Off Setting without cross-traffic masking 1 Setting for low cross-traffic masking 10 Setting for high cross-traffic masking
Turtle mode door open	Off 1 s decreasing	3 s decreasing 5 s constant
Turtle mode door closed	Off On	

Field Turtle mode door open	1 - 10	1 10	Smallest sensing area Largest sensing area
Field Turtle mode door closed	1 - 10	1 10	Smallest sensing area Largest sensing area
Immunity	1 - 7	1 7	Minimum immunity Maximum immunity Immunity can be used to minimize various interfering factors, e.g. rain, vibration, reflections
Standard profiles	1 - 16	Standard profiles based on the table for settings with DIP switch. (see Section 7.2.2)	
Reset		The sensor is reset to the factory setting	
Code	Access with code	Block access	Access without code
Disconnection		Leave program mode	

7.4.4 Security

Access without code:

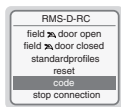
Access with the remote control is possible at any time.

Access with code:

The sensor can be secured against unauthorized access with a 4-digit code. Then the only way to access programming mode is by entering the code.

Block access:

If the sensor is secured with "Block access", the device is blocked. Access with the remote control is no longer possible. Configuration mode is automatically terminated 30 minutes after the last transfer. After cycling power, the sensor is in the "Access without code" state for 30 minutes.



Select "Code"



Select "Access with code"



Enter 4-digit code



Repeat 4-digit code

7.4.5 Address

If there are several sensors in the detection range of the remote control unit, each of them must be set to a different address.

No.	DIP switch	Address
1		Sensor 1
2		Sensor 2
3		Sensor 3
4		Sensor 4
5		Sensor 5

No.	DIP switch	Address
6		Sensor 6
7		Sensor 7
8		Sensor 8
9		Sensor 9
10		Sensor 10
11		Sensor 11

No.	DIP switch	Address
12		Sensor 12
13		Sensor 13
14		Sensor 14
15		Sensor 15
16		Sensor 16

8 Maintenance and Repair

Maintenance

Observe the applicable national regulations for maintenance.

The sensor is largely maintenance-free.

Nonetheless, check the technical safety of the sensor system at regular intervals, watching out for damage of the housing in particular.

Check the sensor for housing contamination occasionally. In order to clean the sensor, regularly use a dry or moist soft cloth to wipe across the sensor. This action will ensure optimal function.

The housing is made of plastic. For this reason avoid contact with acetone and cleaning agents containing solvents.

Repair

If safe operation is no longer possible, the sensor system must be taken out of service and protected against accidental use. Return the device to Pepperl+Fuchs for repair. Independent interventions and modifications are potentially hazardous, and void any guarantee and manufacturer's liability.

9 Troubleshooting

Interfering factors

- The sensor must be mounted securely and not subject to any vibrations. It must not vibrate.
- The sensor must not be installed behind a cover.
- The sensing area must be free of moving objects such as fans, plants, trees, and flags.
- The sensor should be protected from precipitation (for appropriate accessories see Section 4.3).
- The sensor should not be mounted close to fluorescent lighting.

Troubleshooting

Source of error	Remedy
Door is detected	Reduce sensitivity, position sensing field further forward
LED does not light up	No voltage or device is damaged
Sensor responds to very slight influences Door opens for no apparent reason	Increase immunity
Potentiometer is not functioning	Operation with RMS Remote control is switched on
No communication with RMS Remote control	Operation with DIP switch and potentiometer is turned on. Move DIP switch 6 DOWN (OFF). Access is disabled. Interrupt the operating voltage. After the power is turned on again, configuration is possible for 30 minutes without code. Check the Remote control batteries.

10 Appendix

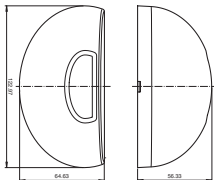
10.1 Technical Data

General specifications	RMS-D / RMS-D-RC	RMS-D BROAD	RMS-D-NA / RMS-D-RC-NA
Principle of operation	Radar module		
Detection speed	min. 0.1 m/s		
Marking	CE		
Mounting angle	0 ... 40 ° in steps of 5 °		
Sensing area	3000 x 2500 mm (DxW) at 2200 mm mounting height and 30° mounting angle	2000 x 4000 mm (DxW) at 2200 mm mounting height and 30° mounting angle	3000 x 2500 mm (DxW) at 2200 mm mounting height and 30° mounting angle
Operating frequency	24.05 ... 24.25 GHz K-band		24.075 ... 24.175 GHz K-band
Operating mode	Radar motion sensor		
Function display	LED red/green		
Controls	DIP switches for operating mode selection: Direction detection, cross-traffic masking, Turtle mode, type of switching, hold time		

Controls	Sensitivity adjuster	
Operating voltage	12 ... 36 V DC , 12 ... 28 V AC	
Current Consumption	≤ 50 mA at 24 V DC	
Power consumption	≤ 1 W	
Switching modes	Active (N.O.) / Passive (N.C.)	
Signal output	Relay, 1 NO	
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	
Hold time (Off Delay)	Adjustable from 0.2 ... 5 s (factory setting 1 s)	
Standards	R&TTE Directive 1999/5/EG; Symbol CE0682!; EMC Directive 2004/108/EG; DIN EN 61000-6-1:2001; DIN EN 61000-6-2:2001; DIN EN 61000-6-3:2001; DIN EN 61000-6-4:2001; DIN EN 12978:2003; DIN EN 61496-1:2005; DIN EN 60335-1:2007; DIN EN 60950:2000; EN 301489-3 V1.4.1; DIN EN 300440-1 V1.3.1(2001-09); DIN EN 300440-2 V1.1.1 (2001-09); ICNIRP Guidelines (1998-04); BGR 232:1989;	complies with FCC Rules Part 15; R&TTE Directive 1999/5/EG; Symbol CE0682!; EMC Directive 2004/108/EG; DIN EN 61000-6-1:2001; DIN EN 61000-6-2:2001; DIN EN 61000-6-3:2001; DIN EN 61000-6-4:2001; DIN EN 12978:2003; DIN EN 61496-1:2005; DIN EN 60335-1:2007; DIN EN 60950:2000; EN 301489-3 V1.4.1; DIN EN 300440-1 V1.3.1(2001-09); DIN EN 300440-2 V1.1.1 (2001-09); ICNIRP Guidelines (1998-04); BGR 232:1989
Ambient temperature	-20 ... 60 °C (253 ... 333 K)	
Relative humidity	max. 90 % non-condensing	
Mounting height	max. 4000 mm	

Protection degree	IP54
Connection	Plug-in screw terminals, 4-pin, 3 m connection cable included in the delivery package
Housing material	ABS, anthracite
Weight	120 g

10.2 Dimensional Drawing



10.3 Factory Settings

	RMS-D	RMS-D-RC
DIP switch	All switches UP (ON)	Switches 1-5: UP (ON) Switch 6: DOWN (OFF)
Sensitivity	Potentiometer: Middle setting / remote control: 16 (maximum)	
Recording mode	With direction detection forward	
Output hold time	1 s	
Relay contact	Normally open	
Cross-traffic masking	Potentiometer: Off / remote control: 1 (minimum)	
Turtle mode door open	Off	
Turtle mode door closed	Off	
Field Turtle mode door open	9	
Field Turtle mode door closed	3	
Immunity	4	

With regard to the supply of products, the current issue of the following document is applicable:
The General Terms of Delivery for Products and Services of the Electrical Industry, published by the Central
Association of the Electrical Industry (Zentralverband Elektrotechnik und Elektroindustrie (ZVEI) e.V.)
in its most recent version as well as the supplementary clause: "Expanded reservation of proprietorship"

FACTORY AUTOMATION – SENSING YOUR NEEDS



Worldwide Headquarters

Pepperl+Fuchs GmbH · Mannheim · Germany
E-mail: info@de.pepperl-fuchs.com

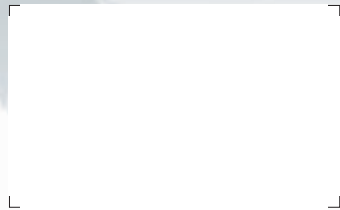
USA Headquarters

Pepperl+Fuchs Inc. · Twinsburg · USA
E-mail: sales@us.pepperl-fuchs.com

Asia Pacific Headquarters

Pepperl+Fuchs Pte Ltd · Singapore
E-mail: sales@sg.pepperl-fuchs.com

www.pepperl-fuchs.com



 **PEPPERL+FUCHS**
SENSING YOUR NEEDS