

ITS-DX1-2 Radar Sensor for Industrial Door

User Manual

Packing List

No.	Item	Qty	Unit
1	Radar Sensor	1	pcs
2	Power Cable	1	pcs
3	Installation Bracket & Screws	1	set
4	User Manual	1	pcs

Note: The accessories could be vary according to different model and version.

Product Introduction

2.1 Features

- Industrial door open & close control
- One way incoming vehicles detection for door opening.
- Support vehicle and people detection.
- The movement direction of vehicles and pedestrians can be determined.
- Detection range can be set by APP.
- Trigger range : 1-8m adjustable.
- Anti-smash range : 0-5m adjustable.

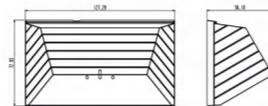


Figure 2-1 Product appearance dimensions (mm)

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2.2 Parameters

Features	Technical Specifications	Parameters
System	Working frequency	77 - 78 GHz
	Communication interface	Bluetooth/RS485
	Modulation	FMCW
	Working Voltage	9-24V
	Power consumption (maximum)	< 3.5W
Installation	Side mounted	30° to the ground
Detection	Range	0 - 8m
	Azimuth	±40°
Antenna	Elevation	±35°
	Others	Distance resolution
Speed resolution		1.9 km/h
Working temperature		-40 ~ +85°C
Protection		IPX4
Dimensions		127.29*72.95*56.1mm
	Weight	136 g

2.3 Cable Definition

Cable identification	Cable colour	Description
VCC	Red	Positive
GND	Black	Negative
OPEN_1	White	Trigger relay
COM_1	Green	public terminal
OPEN_2	Orange	Anti-smash relay
COM_2	Yellow	public terminal

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Preparation

To facilitate equipment installation and ensure the accuracy of alarms, please follow the following precautions:

- The equipment is recommended to be installed at the door head, which can reduce the blind area of the equipment and cover the main activity area of people.
- Please install the equipment with convenient power distribution network. It is recommended to connect uncommon plugs to avoid power conflicts.
- Avoid obstruction. The monitoring area in front of the equipment should be kept as open as possible to avoid interference.
- Avoid large metal objects in the equipment monitoring area. Metal objects have higher reflection intensity than the human body. If there are too many metal objects in the monitoring area, it is easy for the radar to detect false targets.

Installation

4.1 Select installation location

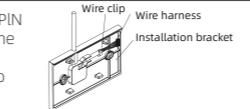
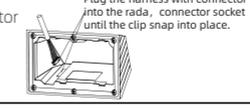
- Installed the radar at the top of the door.
- Install the radar in the middle of the door as much as possible.



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4.2 Install the fixed bracket and radar

- Fix the bracket in the middle of the door.
- Lock the radar on the bracket with screws.

- Fit the installation bracket to the wall according to the mounting position and mark the fixing hole with a pen. 
- Drill a hole in the wall with a φ6.0 drill bit at the marked position, insert the plastic expansion screw sleeve. 
- Thread the wire harness with 8PIN connector terminal through the installation bracket over-wire holes and snap the harness into the wire clip. 
- Fit the bracket to the wall with the mounting holes aligned with the expansion screw bushings, and secure it with screws driven into the expansion screw bushings (adjust the level of the bracket before fully tightened). 
- Insert the harness 8PIN connector terminals into the radar 8PIN connector female sockets until the clip snaps into place. 
- After plugging in the wiring harness, ① fit the radar to the bracket with the top aligned with the top edge of the bracket, ② push the radar flat to the left until you hear a "click" sound, means the radar is installed in place. 

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4.3 Wiring & Connection

- Connect the male terminal of the radar harness to the female terminal of the radar
- Connect the far end of harness to the industrial door control box
- Connect the red wire to the 24V and black wire to GND.
- Connect the first relay of radar anti-smashing to the photoelectric signal and the public terminal of the control box.
- Connect the second relay of radar triggers to the radar signal and the public terminal of the control box.



4.4 Test

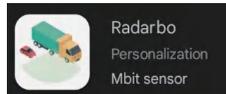
- After power on, the vehicle can trigger the door opening.



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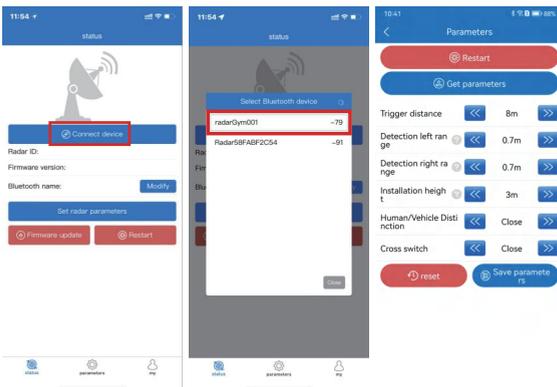
5.1 App Downloading way

- Scan the QR code to download the app or click the link to download : <https://www.famiseer.com/market/appShow?type=industry>
- Open Google or App Store, search for Radarbo, and download Radarbo APP, select DX1 Industrial Gate Control Radar:



5.2 App Debugging

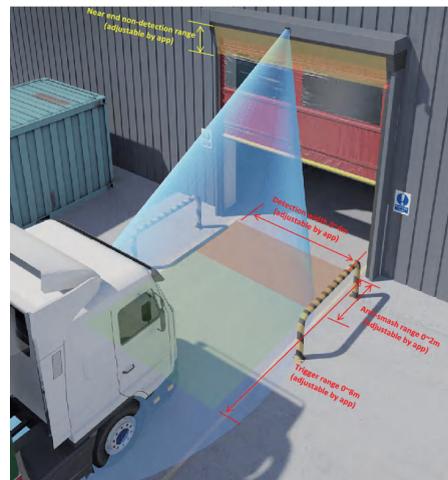
- Turn on Bluetooth before open the app. Connect the device. Select the radar.
- Click the parameter.



Parameter setting:

- Door lifting time: the time that door completes the opening. Trigger parameters: 0-8m
- Anti-smash range: left&right range can be set up to 2m. Recommend to set less than the door width to avoid reflection. Make sure there is no obstacle in the anti-smash detection area.
- Installation height: according to the real situation, can be set up to 6m; Near end non-detection range: set the range according to the actual situation. Recommend to set the range greater than the door reflection area.

Save parameters when finish all the settings.



- After power on, the vehicle drove to the trigger area and the door did not open.

1. Check whether the relay wire in the control box is connected correctly and whether the radar signal and public terminal are connected.
2. Check whether the power is stable.

- After power on, the vehicle trigger distance is very close. Check whether the radar installation angle is correct. The recommended installation angle is 30 degrees to the ground.

- After triggering the door opening, the door will not close when the car passes

1. Check whether the relay wire in the control box is connected correctly and whether the radar signal and public terminal are connected.
2. Check whether the minimum non-detection range setting is enough, and modify it in the APP
3. Check whether the door width is set too large and set it through the APP link.

- After the vehicle triggers the door opening, the door will automatically

1. After the vehicle triggers the door opening, the vehicle stops in the trigger area and does not move, and does not enter the anti-smash area. At this time, the door will automatically close after 10 seconds.
2. Check whether the relay wire in the control box is connected correctly and whether the radar signal and public terminal are connected.

7.1 Privacy protection reminder

- The company follows the Chinese privacy protection laws and regulations such as "Personal Information Protection Law" to protect your personal information.
- The products described in this manual may collect personal information such as face, fingerprints, license plates, mailboxes, telephones, GPS and other personal information. You buy and use the product described by this manual, which means you authorize the company to collect your personal information.
- We are committed to creating a variety of products and services to meet your needs. Because there are many models and services we provide to you. And there are differences in the specific product or service scope, so there are different types of personal information will be used by different products and services.
- In order to bring you a better product and service experience, we continue to improve our products, services and technology. We may launch new or optimized functions from time to time. We may need to collect or use new personal information or change the purpose or method of personal information.

7.2 About this manual

- This manual is used for multiple types of products and software versions. Please refer to the actual appearance and function.
- The content of this manual may contain technical errors or printing errors, which are subject to the final explanation of the company.
- Any losses caused by failing to operate in this manual, shall bear the responsibility of the users.
- The company reserve the rights to modify any information in this manual without notification. Due to the upgrade of the product version or the requirements of laws and regulations in related regions, the content of this manual will be updated from time to time, and the updated content will be stated in the new version.

7.3 Safety instructions

Users responsible for installation and maintenance of the equipment must have basic skills of safety operations. Please read carefully before using the equipment and strictly comply with the following safety operation specifications during use, so as not to cause danger accidents and property losses.

7.4 Storage, transportation, and usage requirements

- Please ensure that the temperature, humidity, dust, corrosive gases, electromagnetic radiation and other indicators of the equipment placement or installation site meet the equipment use environment requirements.
- Please ensure that the equipment is placed or installed smoothly and reliable to prevent falling.
- Unless specifically explained, do not stack the equipment directly.
- Please prevent the inflow of water or other liquid into the equipment to avoid damaging and danger of electric shocks and fires.
- Please ensure that the voltage is stable and meets the equipment power supply requirements. Be sure to use the equipment within the rated input output range. Make sure the overall power supply is greater than the maximum power consumption.
- Please ensure that the equipment is installed correctly before power on, so as not to cause personal injured and device component damage.
- Do not tear the anti-demolition sealing and disassembly equipment without authorization. For maintenance equipment, please consult the professionals.
- Please disconnect the power before the relocate the device to avoid the risk of electric shock.
- This is an A-level product. The product may cause radio interference. In this case, users may need to take practical action on the interference.

7.5 Power requirements

- Please strictly abide by the local electrical safety standards.
- Please use the power adapter equipped with the device.
- Please use the power with a protective grounding connection.

7.6 Exempt statement

- Before using this product, please read this statement carefully. Once used, it is regarded as recognition and acceptance of the content of this statement. Before using this product, any user knows and agrees that the control services provided by this product are not 100% accurate under any conditions. Please strictly follow the manual installation and use the product. If there is any damage or injured caused by improper use (including but not limited to the installation, operation and use of this manual, etc.), Microbrain Intelligent Technology Co., Ltd. does not bear the corresponding losses and compensation responsibility.
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