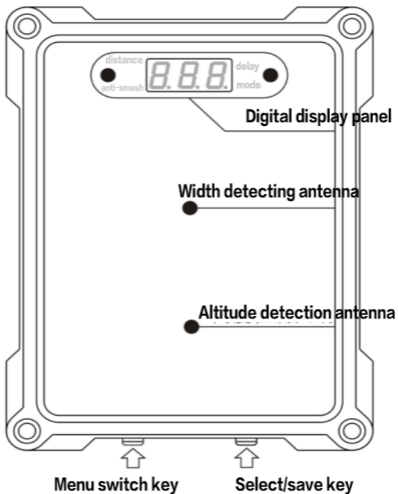
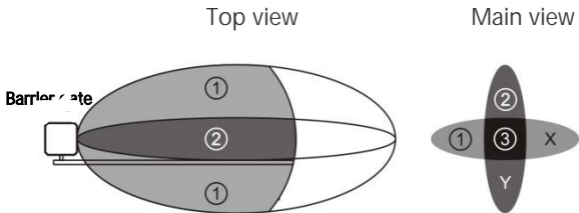


# Digital display dual wave radar

(Millimeter Wave Radar User's Guide)



## 一、Two-wave radar electromagnetic wave distribution diagram



1 : Width detection antenna electromagnetic distribution:  
detection width 1.5-2 meters

2 : Height detection antenna electromagnetic distribution:  
detection height 1.5-2 meters.

3 : Electromagnetic cross region

## 二 : Radar technical parameters

- 1、 Input voltage: 12VDC
- 2、 Rated current: 250mA
- 3、 Operating frequency range: 24-24.25GHz
- 4、 Modulation mode: FMCW
- 5、 X-axis antenna transmit power: 10-15dBm 6、 X-axis horizontal beam:  $35\pm 5^\circ$ .
- 7、 X-axis vertical beam:  $15\pm 3^\circ$ .
- 8、 Y-axis antenna transmitting power: 10-15dBm
- 9、 Y-axis horizontal beam :  $15\pm 3^\circ$
- 10、 Y-axis vertical beam :  $35\pm 5^\circ$
- 11、 Detection distance: 0.5-6m,  $\pm 0.1$ m. 12、 Operating temperature: -40 ~ +85 .
- 13、 Shell size: 127\*97\*26mm

### 三、Radar installation specification

1、 Please give priority to the use of 12VDC 1A or more low noise power adapter independent power supply. The occasions that need to access the open gate signal in the fence mode, please make the radar power supply and the gate controller power supply common ground (GND connected).

2、 When using the gate controller to supply power, please ensure that the output voltage of the controller is 12V, and the output current is not less than 250mA.

3. When applied to small car parks, the radar centre is 50-60cm from the ground, and the height can be increased appropriately when applied to large car parks.

4. The distance between the radar centre and the fence posts: octagonal fence posts not less than 20cm, right-angled fence not less than 25cm.

5、 The radar mounting surface should be perpendicular to the horizontal And fixed reliably。

6、 The ground within the detection range should be flat and free from any obstacles. If the angle between the travelling vehicle and the radar is greater than 30 degrees, please set up a barricade to guide the vehicle.

#### 四、 Connection definition

##### Gate Open Input Function Description :

(: The radar will wait for the vehicle to pass in the following cases)

The gate is closed after the line with a flashing indicator light to indicate this.



1. Radar opens the gate after being accidentally triggered by a pedestrian

2 : Radar picks up rear-end gate opening signal when front vehicle is about to pass

colour	definition	
red	Power input +12VDC	
black	Power input GND	
blue	Relay normally closed NC	
white	Relay COM	Access to the controller's "Ground Sense" port
yellow	Relay normally open NO	
green	Gate opening input (recommended access)	

#### 五、 Operating instructions for the digital display menu

##### 1、 How to access the menu:

Press and hold "Menu Switch" for more than 3 seconds. Tap it to switch menus after entering.

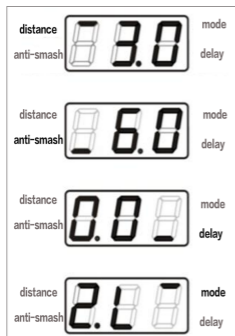
##### 2、 How to change the parameters:

After entering the setup menu items, tap the "Select/Save" button to modify the parameters.

##### 3、 How to save parameters and exit setup:

Press and hold the "Select/Save" button for more than 3 seconds. Then all the parameters of the current setting will be saved automatically. (If there is no operation after 10 seconds, the system will automatically exit the setting and the changed parameters will not be saved.)

## 六、Parameter setting



### Distance setting:

0.5-6.0 m The default is 3.0 m

### Anti-smash time setting:

2.0-12 seconds default 6.0 seconds

### Relay delay setting:

0.0-9.0 seconds Default 0.0 seconds

### Mode and Sensitivity Settings:

Default 2.L fence mode

Working mode	Low sensitivity	Medium sensitivity	high sensitivity
<b>1</b> stick shift	<b>1.L</b>	<b>1.0</b>	<b>1.H</b>
<b>2</b> Fence mode	<b>2.L</b>	<b>2.0</b>	<b>2.H</b>

## 七、General Troubleshooting

### 1、Fault Code Description

**Er** Or **Er2**: Faulty radar antenna. Power off and restart or return to factory for repair.

**Er3**: Insufficient power supply, or power supply interference. Replace the power supply.

## **2、 In fence mode, the radar is triggered by the fence post during gate closing.**

Method 1: The anti-smash time is set too long. Please set the anti-smash time to the time required for the gate to actually close.

Method 2: The centre distance between the radar and the fence post is less than the requirement in the installation specification. Please set the sensitivity to 2.L in case of square bar fence.

## **3、 Radar relay outputs all the time or intermittently:**

Method 1: Clear the obstacles at the current target distance displayed on the digital tube, or set the detection range of the radar reasonably.

Method 2: If the last digit of the current target distance displayed on the digital tube is "H", it means that the altitude detection antenna has detected the ground. If you can't clear the obstacle, please do the following: Press the "Menu Key" and "Select Key" at the same time for more than 6 seconds. Change the initial value of the altitude antenna attenuation from the default "-0b" to "-1b", and set it to "-2b" if necessary.

## **4、 Gate does not close when vehicle passes through**

Method 1: Vehicle passing angle is too big, radar is not activated, please set the sensitivity to high, or guide the vehicle through by setting up barricades. Method 2: The system opening time is too long, the system opening signal disappears only after the vehicle passes through. Please change the relay output time in the car park system.