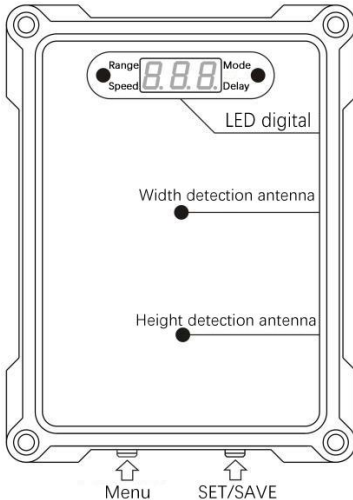


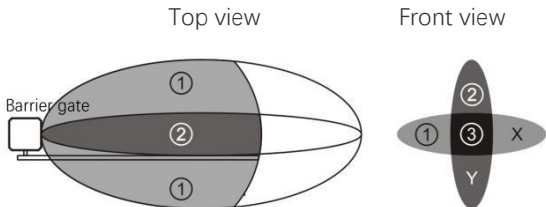
# IWAD-400-2

## Digital dual-wave radar sensor

(Two Transmitters and Two Receivers )



## 1. Schematic diagram of electromagnetic wave distribution of dual-wave radar



- ① Width detection antenna electromagnetic distribution: detection width  $\geq 1.5$ -2 meters.
- ② Height detection antenna electromagnetic distribution: detection height  $\geq 1.5$ -2 meters.
- ③ Electromagnetic wave crossing area.

## 2. 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 transmission power: 10-15dBm.
6. X-axis horizontal beam:  $35 \pm 5^\circ$
7. X-axis vertical beam:  $15 \pm 3^\circ$

8. Transmitting power of Y-axis antenna: 10-15dBm.
9. Y-axis horizontal beam:  $15\pm 3^\circ$
10. Y-axis vertical beam:  $35\pm 5^\circ$
11. Detection distance: 1-6m,  $\pm 0.1\text{m}.$
12. Working temperature:  $-40^\circ\text{C}\sim +85^\circ\text{C}$
13. Size: 127 \* 97 \* 26 mm.

### 3. The radar installation specification

1. Please give priority to the low-noise power adapter above 12VDC 1A for independent power supply. **When the gate opening signal needs to be connected in the fence arm mode, please connect the radar power supply and the gate controller power supply to the ground (GND connection).**

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

3. When applied to the car yard, the best height from the radar center to the ground is 50-60cm. The height can be appropriately increased when it is applied to the parking lot.

4. Distance between radar center and fence post: octagonal fence post shall not be less than 20cm, right-angle fence is not less than 25cm.

5. Radar installation surface should be perpendicular to the horizontal plane. And fixed and reliable.

6. The ground within the detection range should be smooth and free from any obstacles. When the angle between the passing vehicles and the radar is greater than 30 degrees, please set up roadblocks to guide the passing vehicles.

## 4. The definition of wiring

**Description of brake opening input function:**  
(In the following cases, the radar will wait for the vehicle to pass before closing the brake, accompanied by flashing indicator light. )



1. The radar opens after being accidentally triggered by pedestrians.
2. When the front car is going to pass, the radar receives the opening signal of the next car.

Color	Definition
red	Power input +12VDC
black	Power input GND
blue	Relay normally closed NC
white	Relay COM
yellow	Relay Normally open NO
green	Gate opening input (recommended )

## **5. Menu operation instructions**

### **1, how to enter the menu:**

Press and hold the "Menu" for more than 3 seconds. Click to switch the menu after entering.

### **2. How to modify parameters:**

After entering the set menu item, click the "Set/Save" key to modify the parameters.

### **3. How to save parameters and undo settings:**

Press and hold the "Set/Save" key for more than 3 seconds.

Automatically save the currently set.

All parameters. (If there is no operation after 10 seconds, the system will automatically reset the settings and the changed parameters will not be saved.)

## 6. Parameter setting

Range  Mode  
Speed Delay

### Distance setting:

0.5-6.0m.Default is 3.0m.

Range  Mode  
Speed Delay

### Anti-smashing time setting:

2.0-12 seconds.Default is 6.0s

Range  Mode  
Speed Delay

### Relay delay setting:

0.0-9.0 seconds. Default is 0.0s.

Range  Mode  
Speed Delay

### Mode and sensitivity settings:

1.0 Straight arm mode,

2.0 fence arm mode.

Default 2.0 fence arm mode

<div>Sensitivity</div> <div>Work mode</div>	Low	Middle	High
1.Straight arm mode	1.L	1.0	1.H
2.Fence arm mode	2.L	2.0	2.H

## **7. General troubleshooting**

### **7.1. Description of fault code**

Er1 or Er2: Radar antenna failure. Power failure, restart or return to factory for maintenance. Er3: The power supply is insufficient or the power supply is disturbed. Replace the power supply.

### **7.2. In the fence arm mode, the radar is triggered by the fence bar during the closing process.**

Method 1: The smashing prevention time is set too long. Please set the smashing prevention time to the time required for the gate to actually close.

Method 2: The center distance between the radar and the fence pole is less than the requirements in the installation specification. If it is a square bar fence, please set the sensitivity to 2. L.

### **7.3. Radar relay always lose or intermittent lose:**

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

Method 2: If the last digit of the current target distance displayed by the digital tube is "H", it means that the height detection antenna has detected the ground. When the obstacle cannot be removed, please do the

following: press the "menu key" and "select key" at the same time for more than 6 seconds. Enable the height detection antenna to filter the static reflection signal on the ground. "H-0" prohibits filtering the ground static signal, and "H-Y" starts filtering the ground static signal.

#### **7.4. When the vehicle passes, the brake is not closed.**

Method 1: The traffic angle of the vehicle is too large, and the radar is not activated. Please set the sensitivity to a high level, or set up roadblocks to guide the traffic. Method 2: The system opens the floodgate for too long, and the system opens the floodgate signal only after the vehicle passes. Please change the relay input time in the parking lot system.