Millimeter wave radar installation and commissioning manual

NO:9001- ZRD-80 0

Chapter One Product description

1.1. Preface

This manual will describe the technical parameters, installation specifications and precautions of ZRD -800 millimeter wave radar etc., to guide you to correctly install and use millimeter wave radar.

Note: This product is suitable for the type of barrier gate in the parking lot that separates people and vehicles: straight pole, strong professionalism, for you To make better and more comprehensive use of this equipment, please read this instruction manual carefully before installation and use

1.2 、 Main technical indicators of the product

Operating voltage: DC 12 V / DC 24 V - 2 A
Working current: <0. 5A
Power Consumption : <2W
Working temperature: -25℃ ~75℃
Radar system: FMCW
Transmit frequency: 24-24.5GHZ
Transmission power: 1 0 mW
Beam width: 30° horizontally, 15 ° vertically
Response time: 50ms
Signal output: switch value
Learning mode: one-click learning
Detection target: people, cars
Degree of protection: IP 6 6

Dimensions: 80*22*110 mm length* width and height)

1.3 、 Product overview

ZRD -800 millimeter wave radar adopts international advanced microwave high-precision positioning technology and high-speed digital signal processing technology, with high precision, no debugging, high stability, etc., suitable for parking lot entrances and exits , used to replace

The traditional ground induction coil, free of wiring and cutting of the coil, can better avoid incidents of smashing people and cars .

1.4 、 Working principle of millimeter wave radar

Millimeter wave radar adopts 24-24.5 GHz adjustable continuous and high-speed digital signal processing technology , calculates the target distance through the frequency difference between the echo of the computer receiving technology and the transmitting frequency, and executes external control and data after logical operation transmission.

1.5 . Main features of millimeter wave radar:

★ Using 24 GHz MMIC technology, stronger performance, adopts planar microstrip antenna technology, multi-phase detection angle, adjustable detection range. Using advanced signal processing technology, the performance is stable and the false alarm rate is low.

★ LED lights are used to indicate the working status of the radar, which is easier to observe .

★ Using serial port communication, the communication speed is faster and more stable.

★ Can automatically identify the background, easy to operate, strong versatility .

★ The radar detection distance can be adjusted according to the length of the brake lever or the width of the road .

affected by external environment such as light, dust, rain and snow

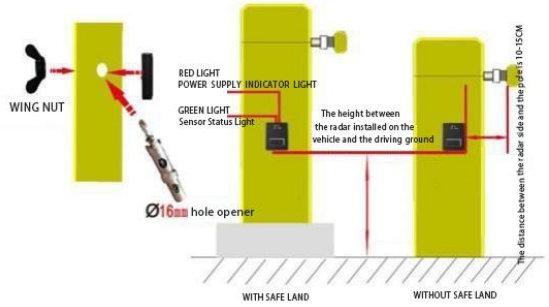
Chapter Two Millimeter Wave Radar Installation Specifications

The millimeter-wave radar is installed on the barrier gate with the indicator light facing upwards. The recommended installation height of the trolley (the vertical distance between the lane driving ground and the radar) is 0.6~0.7 m , and the distance between the radar side and the main pole of the barrier gate is 10 Between -20 cm , use an opening

Drill a hole at the selected position, fix the radar on the box, tighten the fixing screws, and power on the radar. (hole opener

The drill bit size is Ø16 mm).

The schematic diagram of millimeter wave radar installation is as follows :



2.2. Connection line (note: please do not wire with electricity, to avoid short-circuit damage to the equipment due to live contact of the wire head)

serial number	line color	Cable marking	description
1	red	VCC : 1 2 V	12 V power supply positive
2	black	GN D	12 V power supply negative
3	white	T X	T X
4	purple	RX	RX
5	blue	public end	Barrier public end (common end)
6	orange	ground sense	Barrier ground sense function (relay normally open)
7	green	B1 _	button input
8	yellow	B 2	Button input ground

2.3 、 Default parameter setting

1. The default parameters of the millimeter-wave radar are shown in the table below. If you need to modify, please use the software or keys to modify the millimeter-wave parameter. The detection distance can be adjusted by buttons.

2. The default factory detection distance: 3.0 meters (can be modified by pressing the button)

3. Effective distance of radar sensing: 0.5-6 meters (adjustable)

2.4 、 Key setting function

1. Detection distance length setting :
, only POWER is on. Press and hold the button for the first time and enter the rod length setting mode .

The measurement distance is increased by 0.5 meters, and the effective setting distance is cycled within 1-6 meters (the starting distance is 0.5 meters). 1 time: 0.5 meters, 2 times: 1.0 meters, 3 times: 1.5 meters, 4 times: 2.0 meters, 5 times: 2.5 meters, 6 times: 3.0 meters , 7 times: 3.5 meters, 8 times: 4.0 meters, 9 times: 4.5 meters, 10 times: 5.0 meters, 11 times: 5.5 meters, 12 times: 6.0 meters, the set parameters will take effect and be saved 15 seconds after releasing the button, at this time only POWER is on .

2. Vehicle passing delay setting (using scene logistics park or passing large vehicles, long vehicles, trailers, etc.) :

① : Press the button once and let go, the POWER light turns green and flashes, press and hold the button for the second time without letting go , the RUN light turns green and flashes 3 times, then release and unlock to enter the setting mode, press the button again: the third, fourth, and third Press and hold the button five times, sixth time, seventh time and eighth time without letting go, the RUN light turns green and flashes once for 1 second (0-20 seconds). After releasing the button for 15 seconds, the set parameters take effect and are kept. At this time , only POWER is on .

Chapter 3 Precautions for Use

3.1 、 Notes

★The power supply voltage should be appropriate, not too high, so as not to affect the radar performance ;
★Avoid shock and drop, so as not to damage the product ;
★The gate box must be fixed firmly, and the tilt angle of the gate box is less than 5°. Please do not make the front of the radar obstructed ; Do not place any objects in the range (excluding the brake lever). After the environment changes, please calibrate the radar in time ;
★The scene where the vehicle turns in and out at a large angle (the angle between the vehicle and the road when passing through the anti-smashing and triggering area is greater than 30 degrees).

3.2 Instructions for advanced function settings:

Note: Before entering the advanced mode, you can only set the functions of steps 1 and 2, enter the advanced mode (in the second step) press and hold the button, the green light flashes 3 times and let go, the next setting is step 3) , all functions can be set, reaching the maximum setting menu (10th item) will cycle to the 1st menu (setting rod length)

serial number	set function	green light flashing 1 time	green light flashing 2 times	green light flashing 3 times	remark
1	Barrier pole length	Each flash of the green light represents +0.5 meters, to 6 meters automatically start from 0			Basic / Required _ place
2	1 : restore factory settings 2 : Unlock mode		factory reset set up	unlock access set mode	basic settings
3	reserve				
4	set sensitivity	high sensitivity	medium sensitivity	low sensitivity	basic settings
5	reserve				
6	reserve				
7	reserve				
8	Delay time after the car	1 second	2 seconds	3 seconds	green light every flash represent +1 second (0 ~ 20 seconds)
9	reserve				
10	reserve				