

BSD

**Blind Spot Detection
System**



Use instructions

77Ghz Millimeter wave single rader ▶

CONTENT

1、Product Introduction	01
2、Product List	01
3、Technical Parameters	02
4、Product Features	03
5、Installation Diagram	05
6、Legend for Circuit Connections	06
7、Sensor Installation Method	07
8、Troubleshooting and Repair	08

1、Product Introduction

Thank you for choosing our Blind Zone Monitoring Parallel Line Auxiliary System. The product consists of a 77Ghz millimeter wave Sensor, two indicators (or chauffeured car blind zone rearview mirror), a buzzer and a connecting harness.

The products of this system give early warning to the dangerous targets in the left and right adjacent lanes. With its unique ability to penetrate smoke, fog and dust, 77Ghz millimeter wave Sensor can be used all–weather and all–day, and can detect objects in the signal area in real time, and calculate the velocity, angle and relative displacement of 64 objects at the same time. It can detect the target within the farthest 50m, and finally output the alarm signal, including the first alarm and the second alarm.

2、Product List

Name	Quantity
77Ghz Millimeter Wave Sensor	1 pcs
Interior Warning Lamp	2 pcs
Power Cord	1 piece
Buzzer	1 pcs
Power Extension Cord	1 piece

Name	Quantity
Cue Lamp Extension Cord	2 pieces
Mounting Bracket	1 pcs
Accessory Kit	1 bag
Specification	1 booklet

3、Technical Parameters

Properties	Parameters	Technical Indicators
System Properties	Operating Voltage	9–16v
	Operating Temperature	–40~80℃
	Power Consumption	2. 5W
	Waterproof Rating	IP67
	Band	77GHz
	Refresh Rate	20Hz
	Case Size	28*28*22. 5mm
Antenna Performance	Number of Channels Sent And Received	2Tx4Rx
	Pitch Beam Width	±25°
	Horizontal Beamwidth	±55°
Detection Performance	Distance Resolution	0. 2m
	Speed Resolution	0. 2m/s
	Speed Measurement Range	±200km/h
	Ranging Accuracy	0. 2m
	Speed Measurement Accuracy	0. 2m/s
	Goniometric Accuracy	1°
	Detection Distance	50m

4、Product Features

Overview of System Functions

The system uses millimeter-wave Sensor sensors to monitor the environment on both sides of the rear of the vehicle, providing an early warning function when the driver is driving normally or changing lanes.

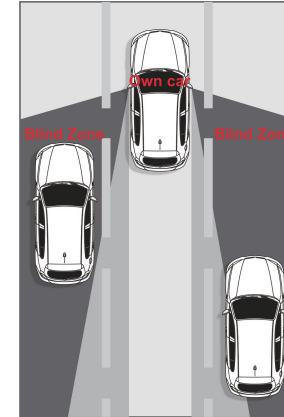
The monitoring area is divided into two sections: 4.4m on the left and right (no alarm in the middle 1.5m) and 10m in the rear, which are the blind zone monitoring area. The system will warn vehicles that enter the blind spot. At this time, the ipsilateral LED light is always on, and when the turn signal is played, the warning level rises and the buzzer sounds, and the ipsilateral LED light flashes.

When the vehicle changes lanes, the detection distance in the LCA lane change warning function reaches 50 meters, when the target car is approaching in the approaching area, when the target vehicle is less than or equal to 5.0s when the approach time is less than or equal to 5.0s, the same side LED light is always on, if the turn signal is turned at this time, the lane change buzzer sounds, and the same side LED light flashes.

Product self-Inspection

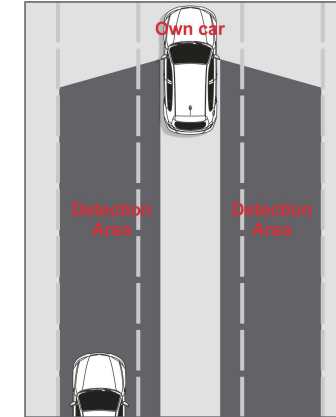
Normal state: After the Sensor is powered on, the left and right prompt lights flash 2 times each.

Blind Spot Detection – BSD



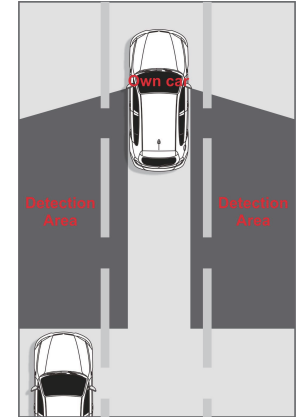
- ◆ System Starting Speed: $V \geq 10\text{Km/h}$
- ◆ Early Warning Lateral Range:
 $1.5\text{m} \leq X \leq 4.4\text{m}$, $-4.4\text{m} \leq X \leq -1.5\text{m}$
- ◆ Early Warning Longitudinal Range: $0\text{m} \leq Y \leq 10\text{m}$
- ◆ Early Warning Strategy: moving target alarm in the alarm area
- ◆ Including active and passive overtaking, following the car at the same speed.

Lane Changing Assist – LCA



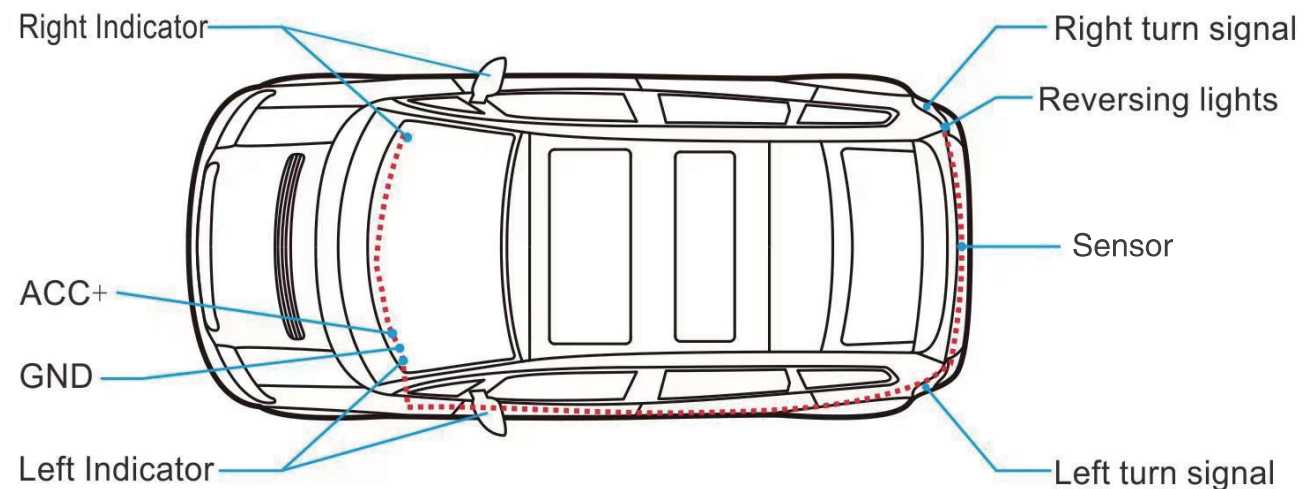
- ◆ Early Warning Lateral Range:
 $1.5\text{m} \leq X \leq 4.4\text{m}$, $-4.4\text{m} \leq X \leq -1.5\text{m}$
- ◆ Early Warning Longitudinal Range:
 $0\text{m} < Y \leq 50\text{m}$
- ◆ Early Warning Strategy: $\text{TTC} \leq 5.0\text{s}$

Active Overtaking Alert – AOA

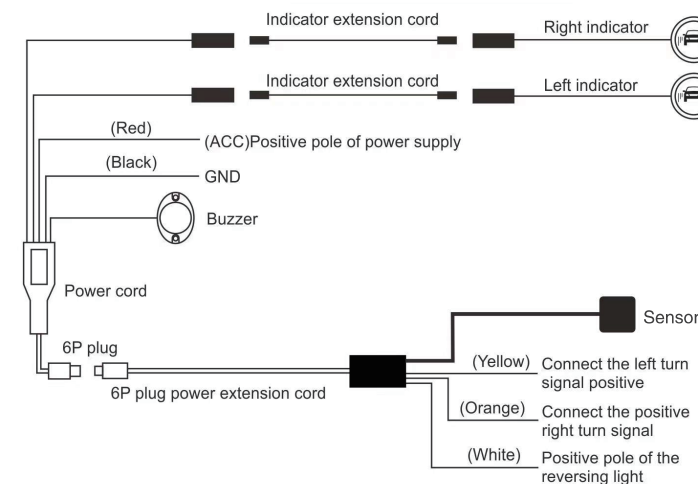


- ◆ Function Starting Speed: $V \geq 10\text{km/h}$
- ◆ Early Warning Lateral Range:
 $1.5\text{m} \leq X \leq 4.4\text{m}$, $-4.4\text{m} \leq X \leq -1.5\text{m}$
- ◆ Early Warning Longitudinal Range:
 $0\text{m} < Y \leq 10\text{m}$

5、Installation Diagram



6、Legend for Circuit Connections



1. Power cord connection method:

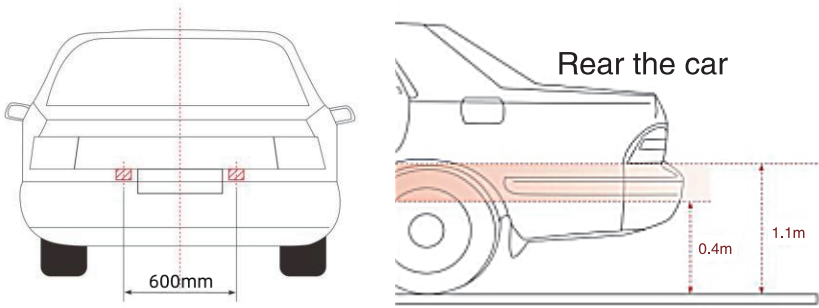
- Connect the black wire of the power cable to the negative pole of the car or tie the iron.
- Connect the red wire of the power cord to the car ACC power supply (car start-up/off/dead).
- The tip light extension cord and the prompt light correspond to the left and right labels, and the male and female are plugged in.

2. Power extension cable connection method:

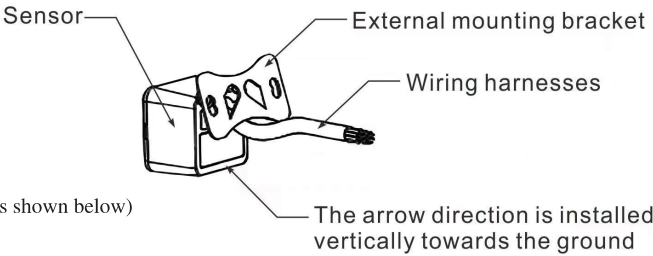
- Route the power extension cable from the front of the car to the rear of the car, plug in the front of the car with the power cord, and plug in the line with the Sensor probe at the rear of the car.
- The yellow wire is connected to the positive pole of the left turn signal.
- The orange line is connected to the positive pole of the right turn signal.
- The white wire is connected to the positive pole of the reversing lamp.

7、Sensor Installation Method

The specific installation requirements are as follows



- Note:
- a. Sensor installation height range 0.4~1.1m;
 - b. Installation angle: the Sensor is perpendicular to the ground and parallel to the rear cross-sectional surface (refer to parallel to the license plate);
 - c. The Sensor can be installed around the rear license plate;
 - d. The Sensor outlet is on the top and the triangular arrow is on the bottom (as shown below)



8、Troubleshooting and Repair

Faults	Possible Causes	Solutions
The left/right LED indicator shows that the target warning position is reversed	The left and right lights are reversed, and the Sensor is reversed up and down	1. Check the left and right light signs
		2. Check whether the Sensor surface is installed correctly
When the system detects the warning target, the turn signal is played, and the buzzer has no alarm sound	1. The buzzer is on	1. Check whether the buzzer is normal
	2. Turn signal input problem	2. Check whether the turn signal wiring is on
After power-on, the light is always on and off	1. Wiring harness problem	1. Wiring harness insertion and unplugging inspection
	2. The LED light is damaged	2. Replace the LED light for inspection

Warning

Before making an actual lane change, be sure to visually inspect the surrounding area.

The system is only used to assist you in detecting vehicles behind you when changing lanes. Due to certain limitations of the actual working environment, the vehicle is sometimes already in adjacent lanes, and the system warning signal will not flash or may flash delayed. You should not rely solely on this system, and the company will not be responsible for any accidents.