

USER MANUAL OF RADAR VEHICLE DETECTOR

Ver 2.10

Thank you for using this product, please read this manual carefully before use.

WARNING:

- i. Installation and operation by professional service personnel only;
- ii. Disconnect the power before working on this unit;
- iii. Correct configuration & installation will ensure a successful inductive detection system;
- iv. This radar detector is only applicable where the vehicle passes straight lane, and cannot be used when the vehicle turns through the barrier gate;
- v. The sensing distance of the detector is 0.5m shorter than the length of the boom;
- vi. After the DIP switch is set, the waterproof sealing sheet must be tightly closed;
- vii. During the initial detection period when the detector is installed and powered on (when the green light of the radar is flashing), no cars or people are allowed in the radar coverage area;
- viii. The detector must be installed vertically and the surface of it is not allowed to be blocked by any attachments, and the detector surface is directed outwards vertically towards the direction of the traffic lane;
- ix. Any objects that can be detected by the detector are not allowed to be stacked within the set detection range;
- x. The detection targets of the radar detector are mainly vehicles and pedestrians. Any target smaller than the vehicle and pedestrian (RCS) may be missed;
- xi. The detection target angle adapted by the detector is limited. When the included angle between the vehicle and the normal line of the detector illumination is large, there may be missed detection.

1. BRIEF SPECIFICATIONS

- Working Frequency: 24 GHz
- Vertical Beam Width: 43°
- Horizontal Beam Width: 11°
- Coverage Range: 0m~6 m;
- Detection Distance: 2.0 m~6 m (8 levels adjustable)
- Response Time: 100ms
- Signal Output: NO/NC.
- Waterproof: IP65
- Operating Voltage: DC 6V~18V
- Working Current: less than 90 mA/12V.
- Operating Temperature: -40℃~+85℃;
- Humidity: relative humidity 99% at 25℃.

2. INSTALLATION INFORMATION

Suggestion of the Installation: The installation height for small vehicles is about 0.7m; the installation height for large vehicles (truck) is about 1m. Large vehicles pass through the lane, and the narrow radar beam (long side) is in the horizontal direction.

1st. Drilling: Drill 4 screw holes and 1 cable hole on the body of the barrier gate as the installation template. The installation height from the ground is about 0.7m ~ 1m. The installation hole template is shown in Figure 1.

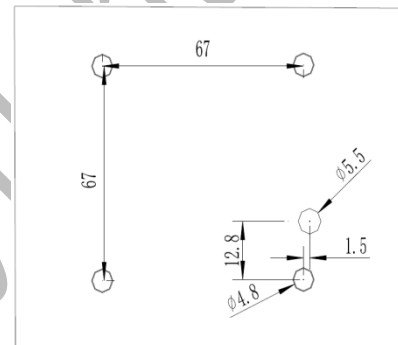
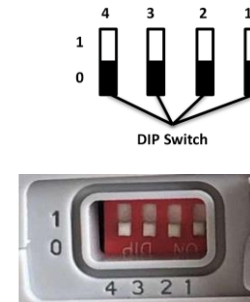


Figure 1 Diagram of the Installation Template

2nd. Distance Setting: Set the sensing distance of the detector by the DIP switch in the waterproof sealing sheet on the end face of the radar. The relationship between the sensing distance and the DIP setting is shown in Figure 2.



DIP Setting			Sensing Distance (m)
DIP3	DIP2	DIP1	
0	0	0	2.0±0.2
1	0	0	2.5±0.2
0	1	0	3.0±0.2 (Default)
1	1	0	3.5±0.2
0	0	1	4.0±0.2
1	0	1	4.5±0.2
0	1	1	5.0±0.2
1	1	1	6.0±0.2

Figure 2: Correspondence between DIP Switch and Radar Sensing Distance

NOTES:

- 1) The factory's default sensing distance is 3m±0.2m;
- 2) The DIP switch must be set in the power-off state;
- 3) The setting sensing distance of the detector is 0.5m shorter than the length of the gate boom;
- 4) DIP 4 is the background learning state setting: "0" means learning a new background every time it is powered on; "1" means learning only when powered on for the first time.
- 5) If the environment changes greatly during use or the radar detector is reinstalled, you need to dial the DIP4 to "0" firstly, and then power on to clear the old background; after clearing, power off and set the DIP4 on "1", the radar will learn and save the new background when powered on.

3rd. Fixation: Fix radar to the mounting plate by included screws, washers and nuts as Figure 3.

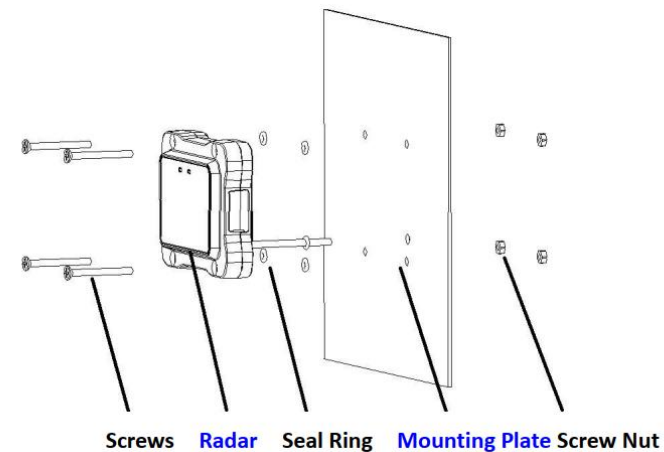


Figure 3 Installations & Fixing

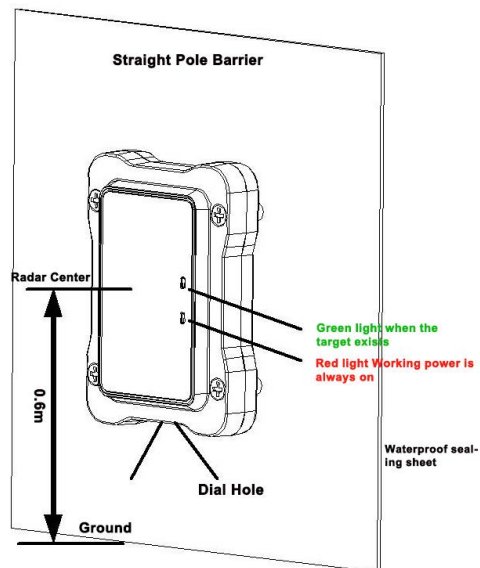


Figure 4 Fixing for Straight Boom Barrier

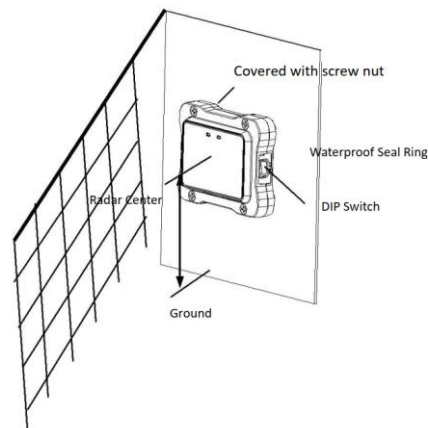


Figure 5 Fixing for Billboard/Fence Barrier

4th. Wiring: Connect the wire as Figure 6.

The radar detector adopts a bundle of 8-core cables, including power supply input. Only four wires are required usually as the figure 6.

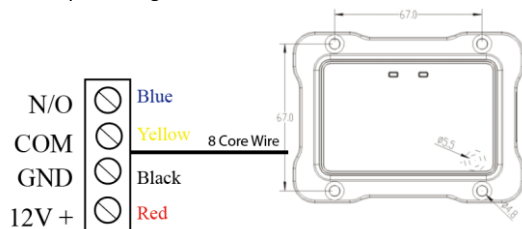


Figure 6 Wiring Diagram

The specific interface definition is shown in Table 1.

No.	Wire Color	Interface Definition	Remark
1.	Red	12V+	DC12V±3V
2.	Black	12V-	GND
3.	White	ON/OFF Contact 1	NO , Boom Down Trigger
4.	Yellow	COM	Output
5.	Blue	ON/OFF Contact 2	NO, Anti-smash/Safety
6.	Brown	/	/
7.	Orange	RS485/RS232	Serial data output
8.	Green	RS485/RS232	Serial data output

3. DEBUGGING

- After setting the sensing distance and the learning status of the radar detector, the RED led indicator is always on, and the GREEN led indicator will flash 5 times when powered is on. That means a radar detector detects the surrounding environment automatically. Any objects that can be detected by the detector are not allowed to be stacked within the set detection range when self-test;

- After the power is on, the GREEN led indicator is continuously off when the barrier boom up/down many times if the detector is set and installed correctly;
For the billboard/ fence barrier, It is necessary to put washers on the two screws near the billboard/fence, and then up/down the fence several times until the GREEN led indicator is continuously off.
- The GREEN led indicator of the radar detector will light up when a person or vehicle passes through the radar sensing area, and it will go out when a person or vehicle leaves the sensing area.

4. AFTER SALES

- The warranty of the radar detector is 1 year. During the warranty period, the faults that are not caused by the user will be repaired free of charge.
- It will be charged for maintenance or refurbishment when the radar detector is beyond the warranty period and will be responsible for maintenance for life.
- Damaged or unauthorized disassembly of the signs is not covered by the warranty.

Typical Wiring Case

Port descriptions may be different on different gate controllers, please connect the wire according to the actual situation. The image below is for reference only.

