Human-vehicle distinguishing radar user manual

(Bluetooth debugging model)

Product selection

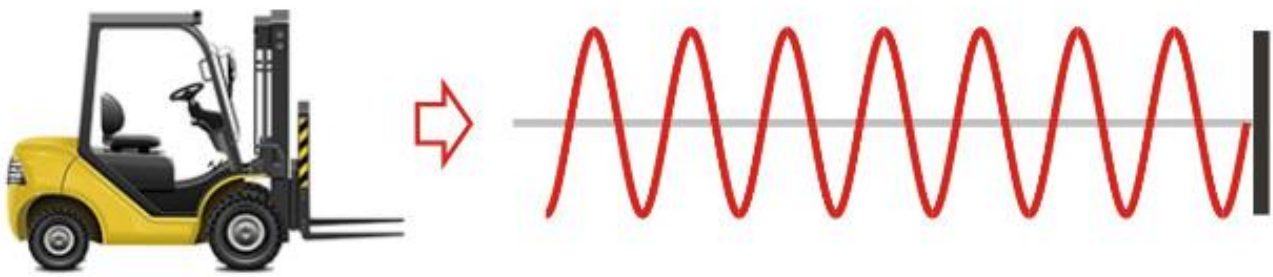
product model	Radar type	Applicable scenario
MMW24RC	Doppler	Motor vehicle 20km/h
FMCW24RC	Doppler Target following	Motor vehicle 30km/h Trolley 10km/h

Product mix

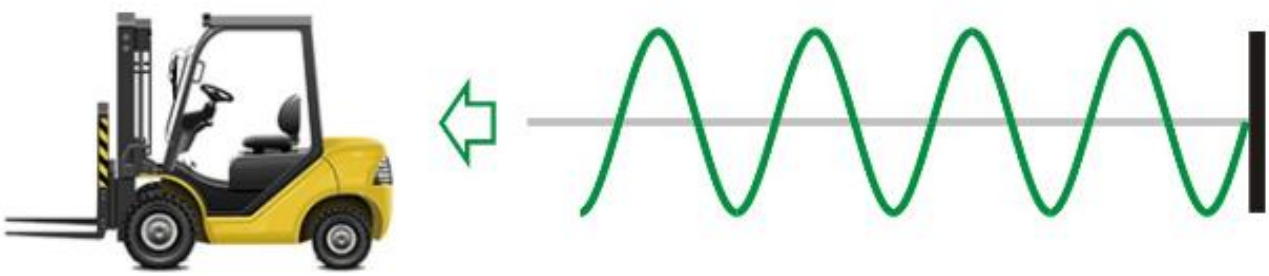
1. Working status indicator light. 2. Radar antenna panel.
3. Sensitivity adjustment knob. 4. Install the bracket.

一、principle of operation

1、 Proximity detection



2. Stay away from detection



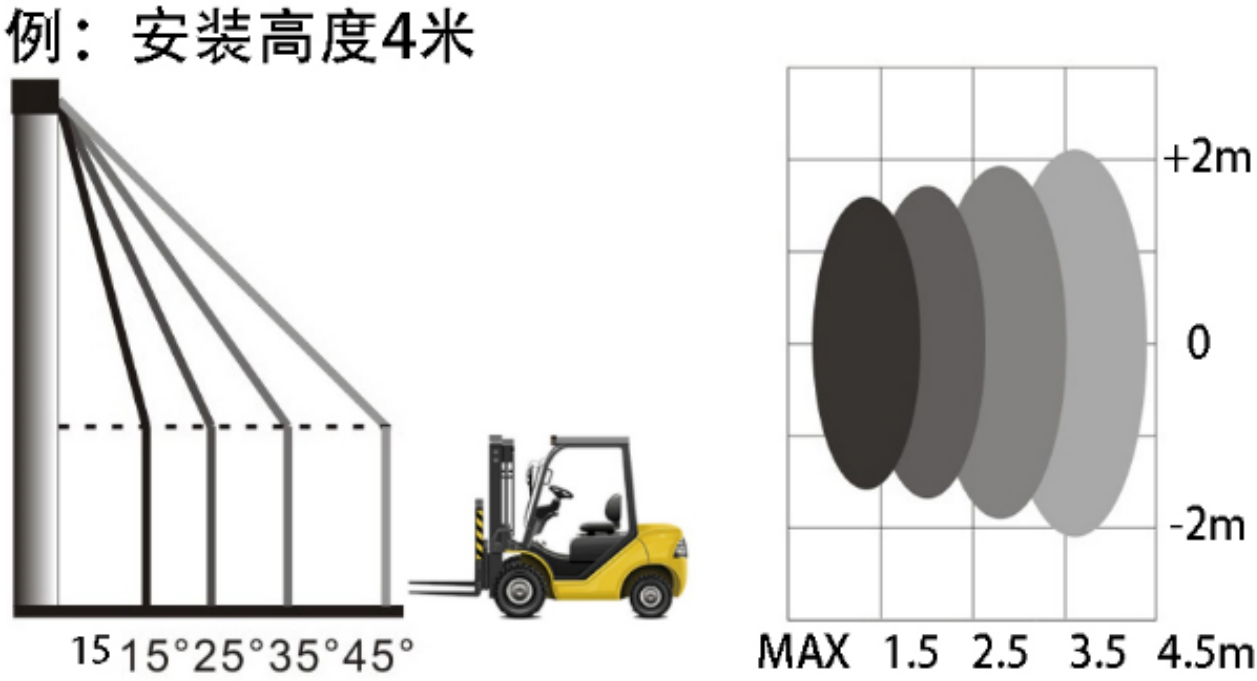
Wiring definition

colour	Describe
red	12-24VAC/DC regardless of positive or negative.
black	
blue	NC
white	COM
yellow	NO

Technical parameters

1. Input voltage: 12V-24VAV/DC.
2. Rated current: 150mA.
3. Operating frequency range: 24-24.25GHz.
4. Modulation mode: CW or FMCW.
5. The installation height is 3-7m.
6. Detection methods: approach, distance and bidirectional.
7. Relay output time: 1-5 seconds Bluetooth adjustment.
8. Working temperature: -40℃~+80℃.
9、 Protection grade: IP65.

The corresponding relationship between



radar installation angle and detection range

Important parameter description

1. "Sensitivity": the setting range is 1-9, and the value is super high and the sensitivity is super high. Field testing is required to configure an optimal value.

2. "Installation Height": Please set a height value closest to the radar to the ground. This parameter determines the current reference sensitivity of the radar, and

the above-mentioned "sensitivity" will be fine-tuned on this basis.

"Installation height": This parameter is especially important for radar with target tracking, which will determine the effective tracking range of the target and greatly improve the recognition rate of small non-motor vehicles.

3. "Presence maintenance": only valid for FMCW24RC radar. When it is set to "On", if the radar detects the target output, the radar will always keep the output as long as there are people or vehicles in the detection area.

3. " Existence output ": This function is only applicable to FMCW 24RC radar. When set to "Enable", as long as the radar detects the target, the radar relay output remains.

External twist debugging

It needs to be configured as external twist debugging mode through WeChat applet. In this mode, the radar sensitivity will be determined by the twist position, the twist nuclear degree is 1-9, and the numerical value is super high and the sensitivity is super high.

When FMCW24RC radar is used to detect small non-motor vehicles, it is forbidden to use external twist debugging mode.

Precautions for use

1. The radar should be installed horizontally above the driveway with a height of 3-7m. When the height is more than 7 meters, it can be installed on both sides of the door, and the installation height should be not less than 4 meters.
2. The effective detection width of radar for motor vehicle lanes is about 3 meters. If it is

more than 3 meters, roadblocks should be set up to guide vehicles to pass.

3. The effective detection distance of radar is related to the installation height and angle. Generally, the maximum detection distance of radar can be predicted to be 1.5 times of the installation height. When the door needs to be opened in advance, the radar installation position should be moved forward.

4. When the sensitivity cannot find the optimal value, please refer to the table below to check if the relationship between radar installation height and angle is reasonable.

mounting height	Pitch angle reference	explain
< 3.0 m	45-60°	Increase detection distance
3.0-5.0m	30-45°	General installation height
5.0-7.0m	15-30°	Reduce the blind area under the door