

RD79-6M Barrier Gate Radar User Manual

1. Product Introduction

RD79-6M Barrier Gate Radar is specifically designed for entrance/exit management in parking lots and underground garages, setting industry standards with its exceptional anti-crushing intelligence and precise triggering capabilities. Seamlessly integrated with the barrier gate's main control board, it precisely regulates the lifting and lowering of the barrier arm. Its fast response and smooth operation eliminate the risk of accidental injury to people or vehicles at the source, establishing an intelligent safety protection system.

The product features an advanced integrated RF chip solution, offering a compact and cost-effective design. It delivers stable, uninterrupted operation around the clock, withstanding harsh weather conditions. It boasts exceptional detection sensitivity and precision, while its easy installation and commissioning significantly enhance construction and maintenance efficiency.

The core system employs 79GHz frequency band technology combined with linear frequency modulation continuous wave (LFM-CW) technology, paired with multi-transmitter, multi-receiver millimeter-wave antennas. This configuration achieves industry-leading angular resolution and goniometric accuracy. Through deep hardware-software optimization, it precisely distinguishes between pedestrians and vehicles within the barrier arm zone. This eliminates risks of vehicle or pedestrian impact while preventing false non-lowering incidents, balancing entrance/exit security control with traffic efficiency.



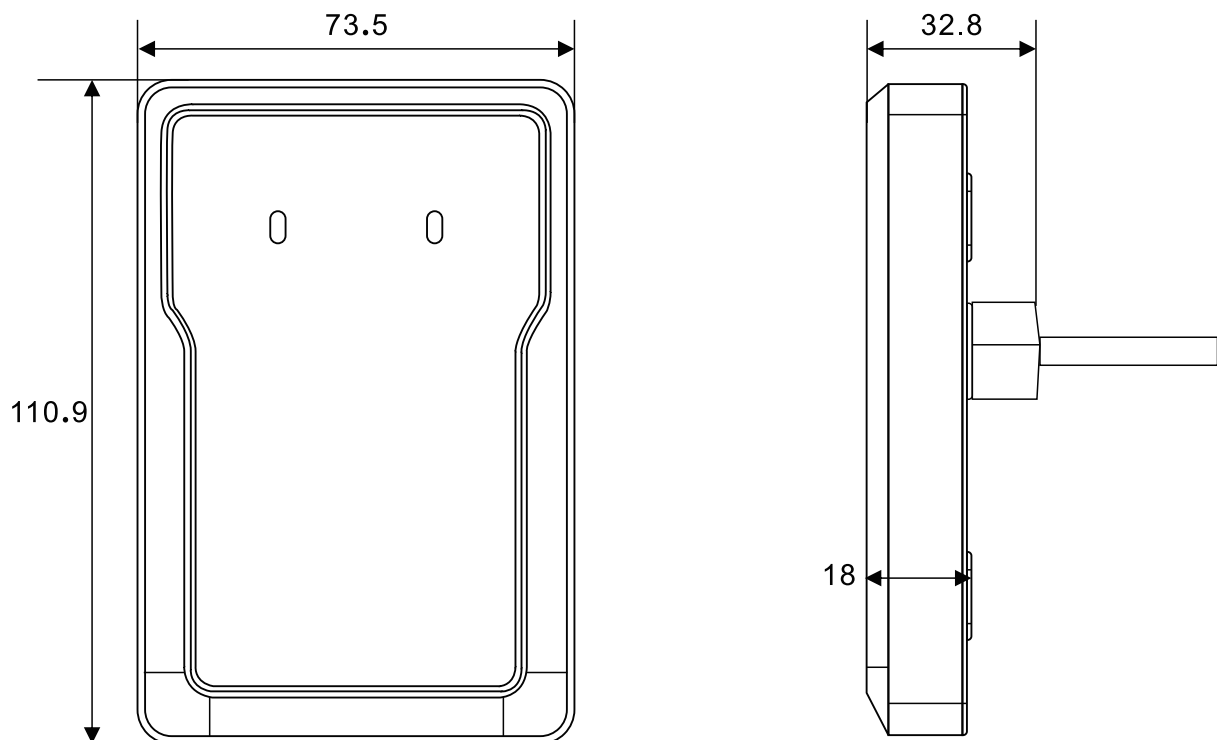
2. Product Highlights

- ▶ Integrated anti-crush protection + trigger dual functionality—one device, two uses, switch as needed. Simplify inventory management and save time!
- ▶ Based on TI's automotive-grade radar SoC chip solution
- ▶ Supports remote debugging of barrier gates and radar systems
- ▶ Supports all types of barriers: straight-arm, folding-arm, fence-style, and advertising barriers.
- ▶ 2T4R antenna, achieving high range resolution down to 4 cm
- ▶ Millisecond-level response speed, with detection results determined within 500 milliseconds.
- ▶ Supports human-vehicle separation detection, effectively meeting diverse application scenarios.

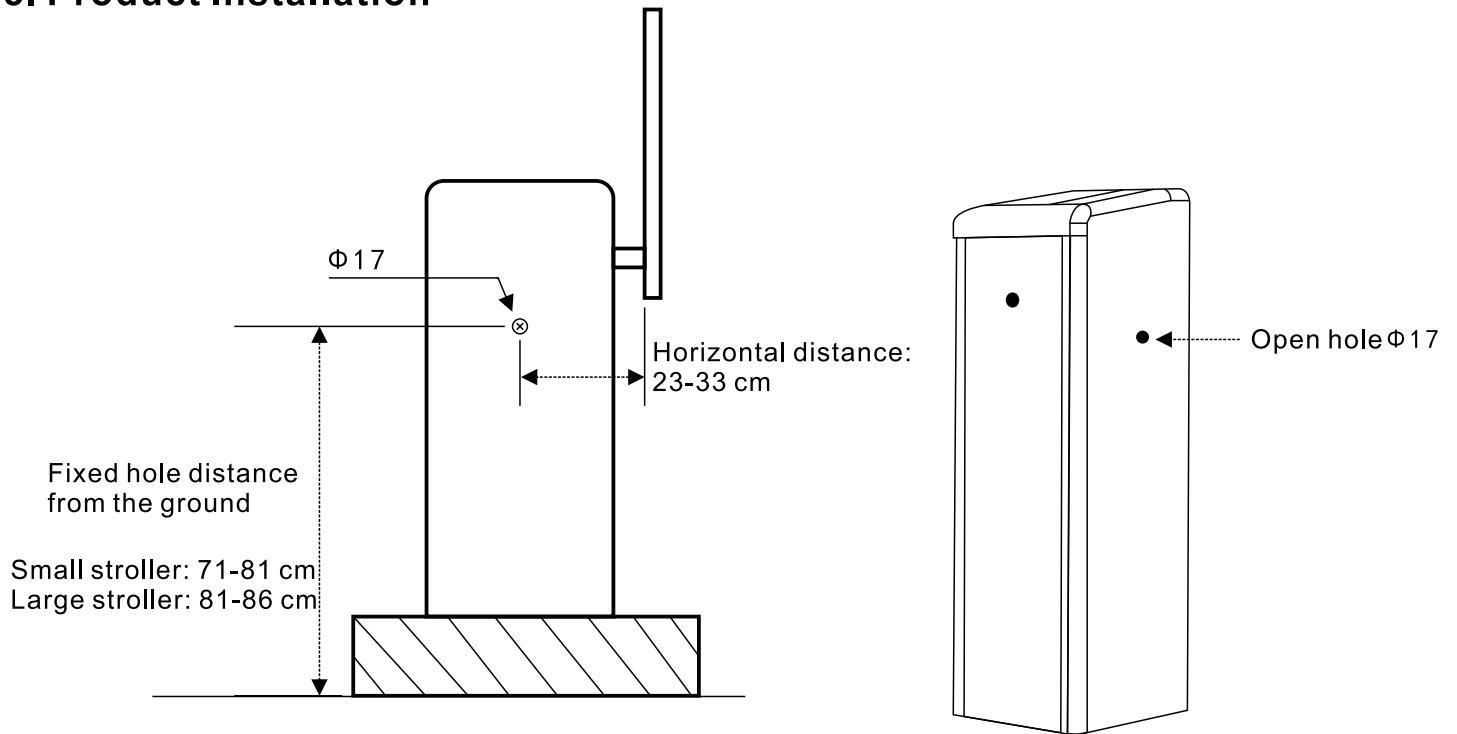
3. Product Specifications

Operating Frequency	79~81GHz
Distance Resolution	4cm
Target Differentiation	Only inspect vehicles and check both people and vehicles
Barrier Gate Type	Straight poles, folding arms, fences, advertisements
Communication Methods	Bluetooth , RS485
Response time	≤100ms
Supply Voltage	DC12~24V
Average Current	200mA(12V)
Maximum Operating Current	600mA
Average power	1.2W(@12V)
Housing Material	Pc、 aluminum alloy
Enclosure Dimensions	73.5*110.9*32.8mm
Protection Rating	Ip66
Operating temperature	-40°C ~ +80°C

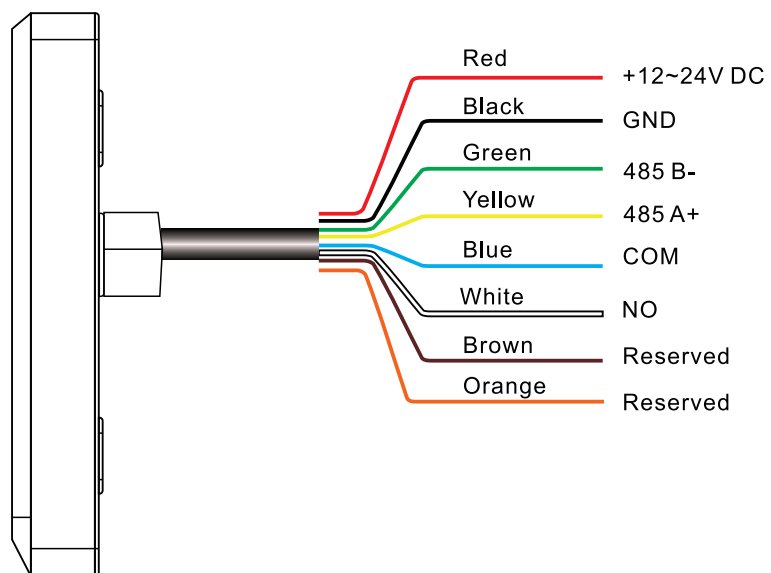
4. Product Appearance And Dimensions (Unit: mm)



5. Product Installation



6. Wiring Definitions

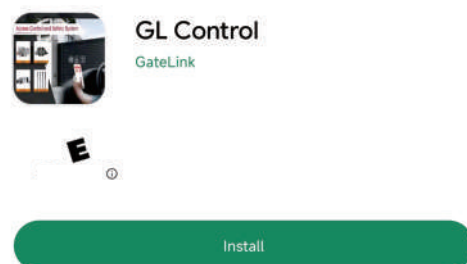


7. Radar Settings

Scan the QR code to download the Radar Settings app (Android version).
Search for GL Control in the Apple App Store.

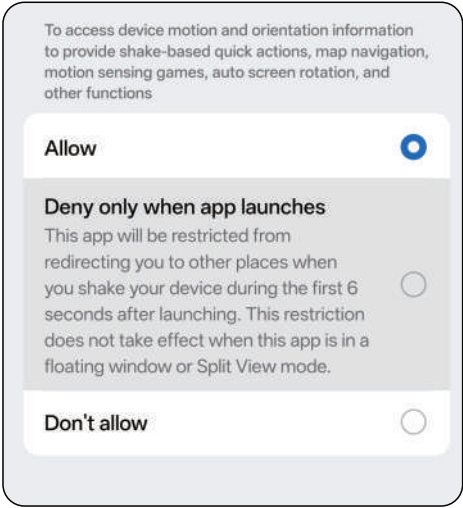


QR Code Download

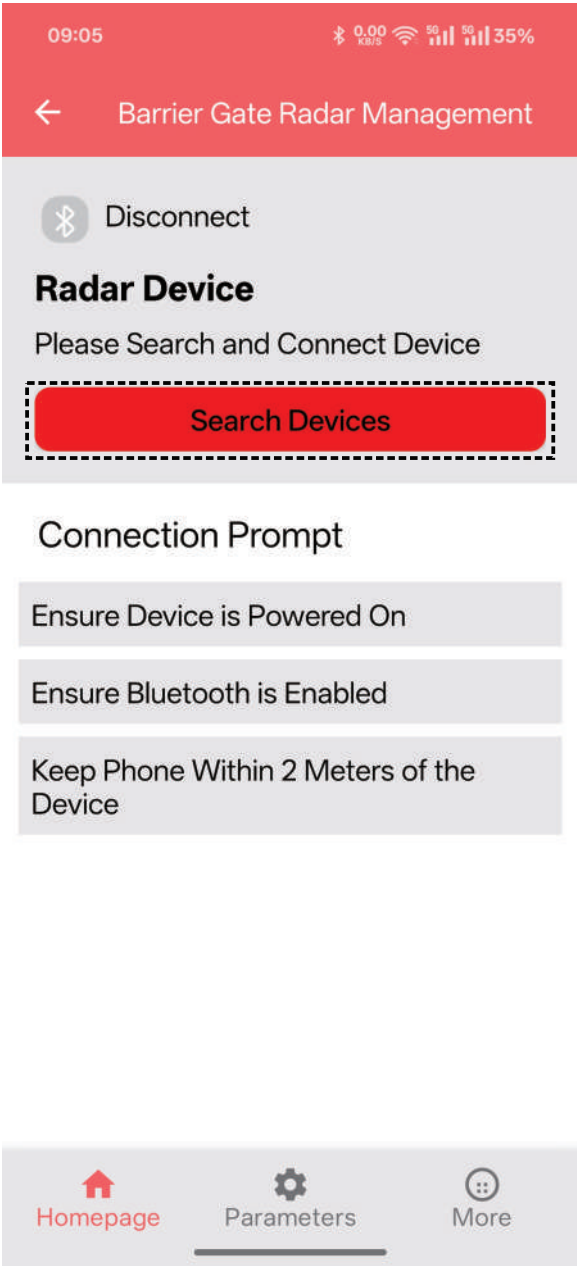


Google play store/IOS store

Before opening the software, enable Bluetooth and location services.

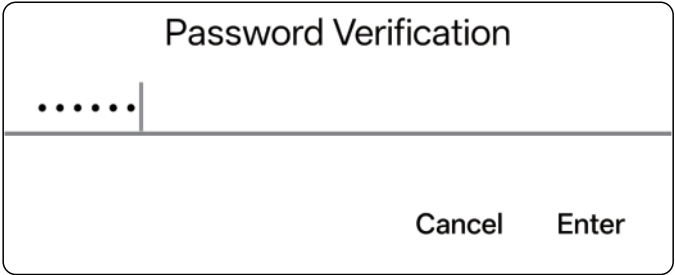
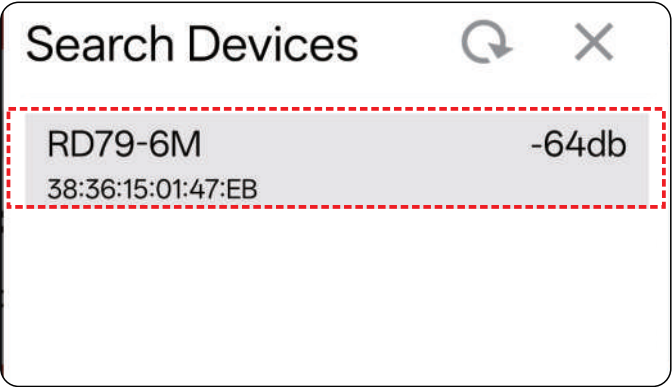


Open the software, click RD79-6M, then click Search Devices.

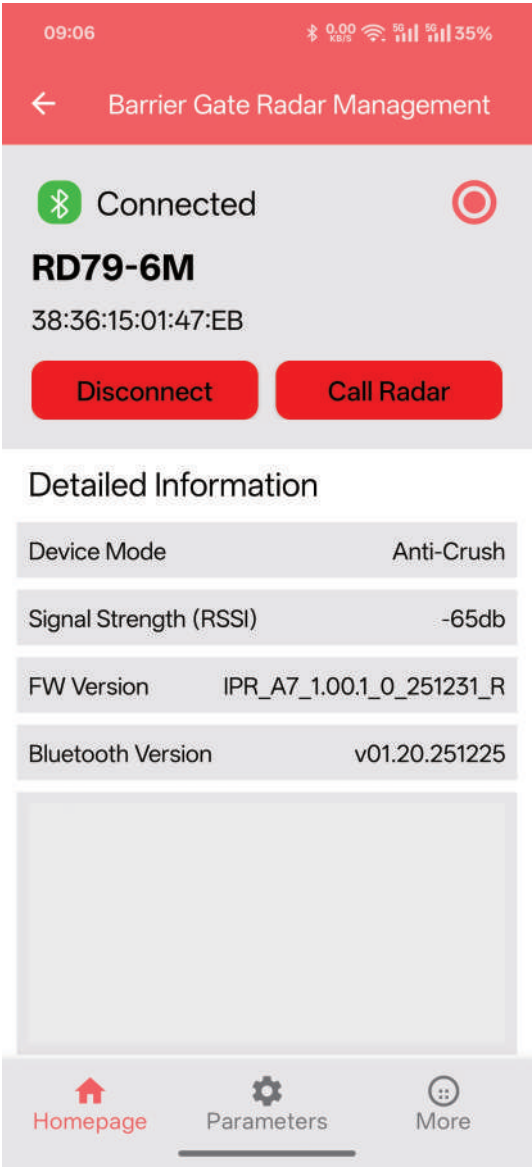


Home Page Interface

Click RD79-6M and enter the password (initial password: 123456).



After successful connection, proceed to the home page. Tap the Radar icon to activate it; the green indicator light will illuminate. First, tap “Get Configuration” to obtain the radar's initial settings.



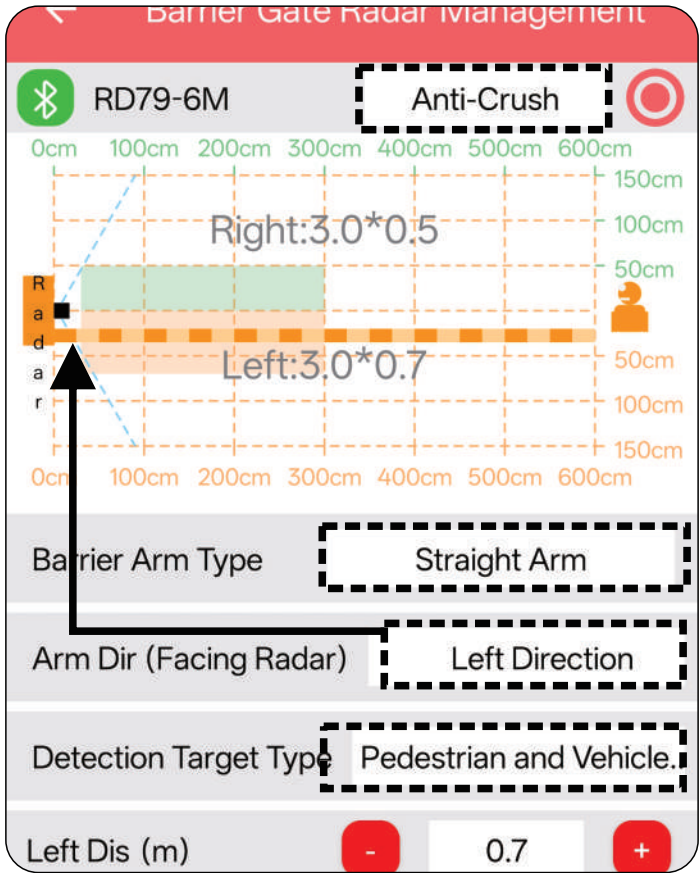
Home Page Interface



Parameter Settings Interface

Set radar Mode And Parameters

The RD79-6M radar can be configured in three modes: anti-crush, trigger, and slanted-mount trigger. In anti-crush mode, select the barrier arm type and direction (as viewed by a person facing the radar), and also choose the target detection type.



Parameter Settings Interface

Device Mode

Anti-Crush

Trigger

Inclined Mount Trigger

Device Mode Interface

Barrier Arm Type

Straight Arm

Fence Arm

Advertising

Barrier Arm Type Interface

Arm Dir (Facing Radar)

Left Direction

Right Direction

Barrier Arm Direction Interface

Detection Target Type

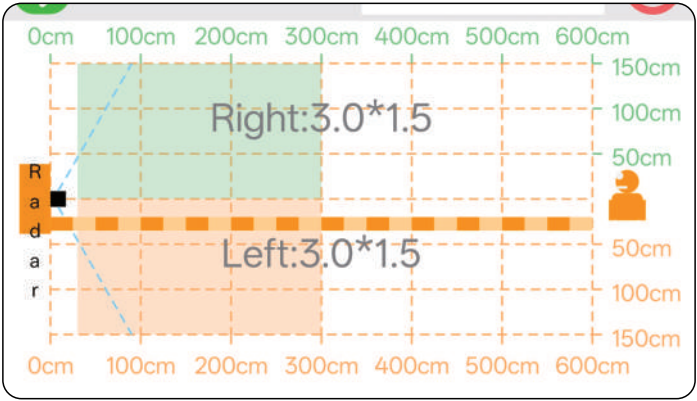
Vehicle Detection Only

Pedestrian and Vehicle Detection

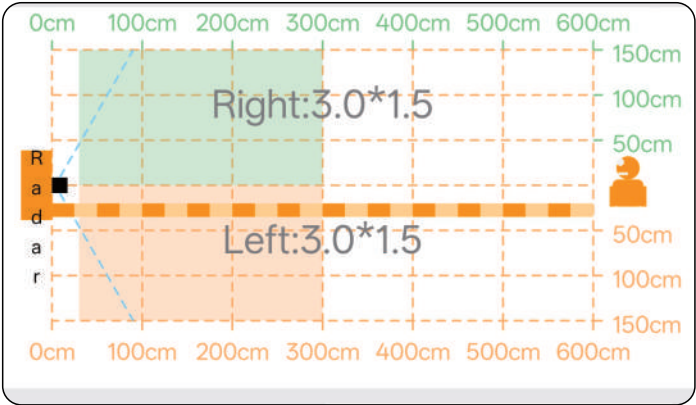
Target Type Detection Interface

Set Radar Detection Range

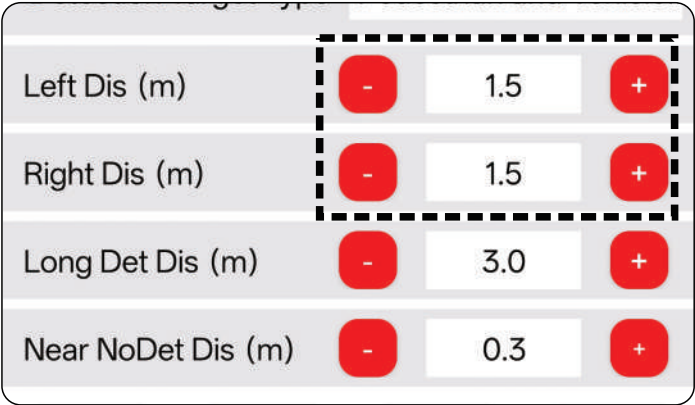
Set the left-right distance based on the actual scenario; this setting primarily addresses customer requirements for anti-impact zone configuration and can be adjusted as needed.



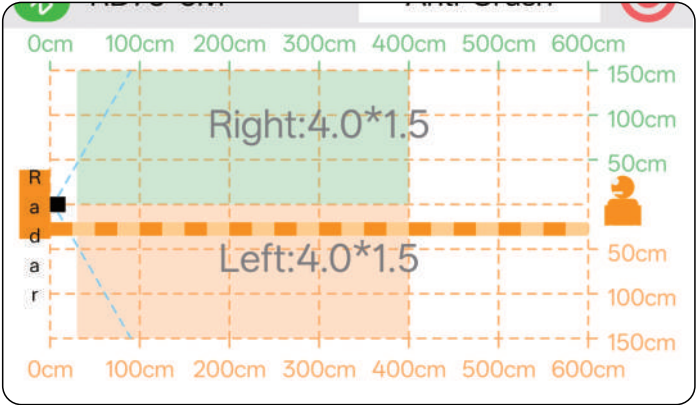
Radar Detection Range Interface



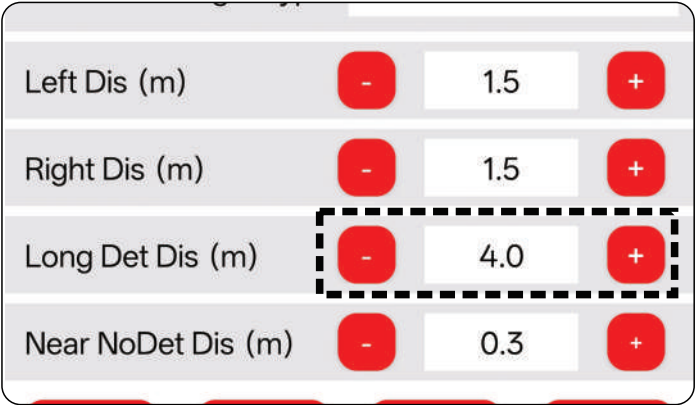
Radar Detection Range Interface



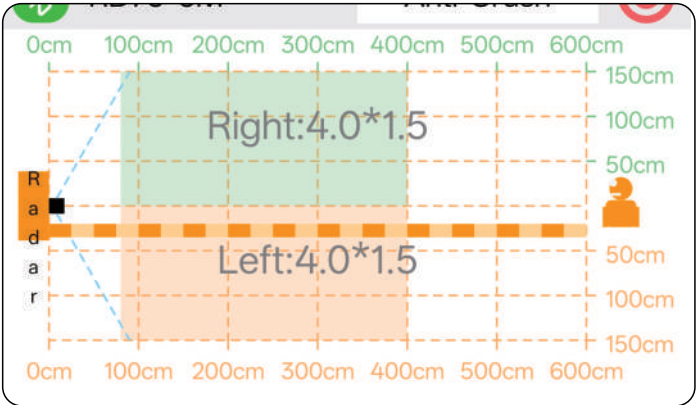
Radar Detection Settings Interface



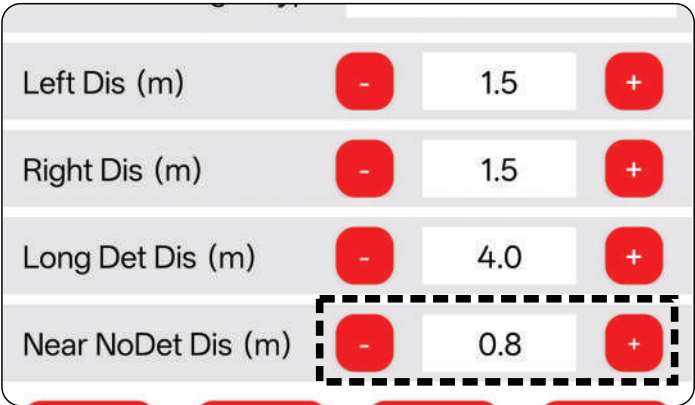
Radar Detection Range Interface



Radar Detection Settings Interface



Radar Detection Range Interface



Radar Detection Settings Interface

Background Study

After confirming the parameter settings are complete, raise the barrier arm and ensure no other targets (people or vehicles) are within the radar detection zone. Click “Background Learning.” During the learning process, ensure no “people” or ‘vehicles’ enter the detection area. The radar indicator light will flash green. Once learning is complete, the interface will display a “Background Learning Complete” prompt.

Arm Dir (Facing Radar)

Left Direction

Detection Target Type

Pedestrian and Vehicle..

Left Dis (m)

-

1.5

+

Right Dis (m)

-

1.5

+

Long Det Dis (m)

-

3.0

+

Near NoDet Dis (m)

-

0.3

+

Get Cfg

Save Cfg

Bg Learn

Restart

Homepage

Parameters

More

Parameter Settings Interface

Note

Lift the Arm Before Performing Background Learning

CancelEnter

Background Learning Interface

Background Learning Succeeded

Learning Success Interface

Save Configuration

After completing the parameter settings, click Save Configuration and confirm based on the actual scenario and configuration requirements.

Barrier Arm Type

Straight Arm

Arm Dir (Facing Radar)

Left Direction

Detection Target Type

Pedestrian and Vehicle..

Left Dis (m)

-

1.5

+

Right Dis (m)

-

1.5

+

Long Det Dis (m)

-

3.0

+

Near NoDet Dis (m)

-

0.3

+

Get Cfg

Save Cfg

Bg Learn

Restart

Homepage

Parameters

More

Parameter Settings Interface

Barrier Arm Type

Straight Arm

Arm Dir (Facing Radar)

Left Direction

Detection Target Type

Pedestrian and Vehicle..

Left Dis (m)

-

1.5

+

Right Dis (m)

-

1.5

+

Long Det Dis (m)

-

4.0

+

Near NoDet Dis (m)

-

0.3

+

Get Cfg

Save Cfg

Bg Learn

Restart

Homepage

Parameters

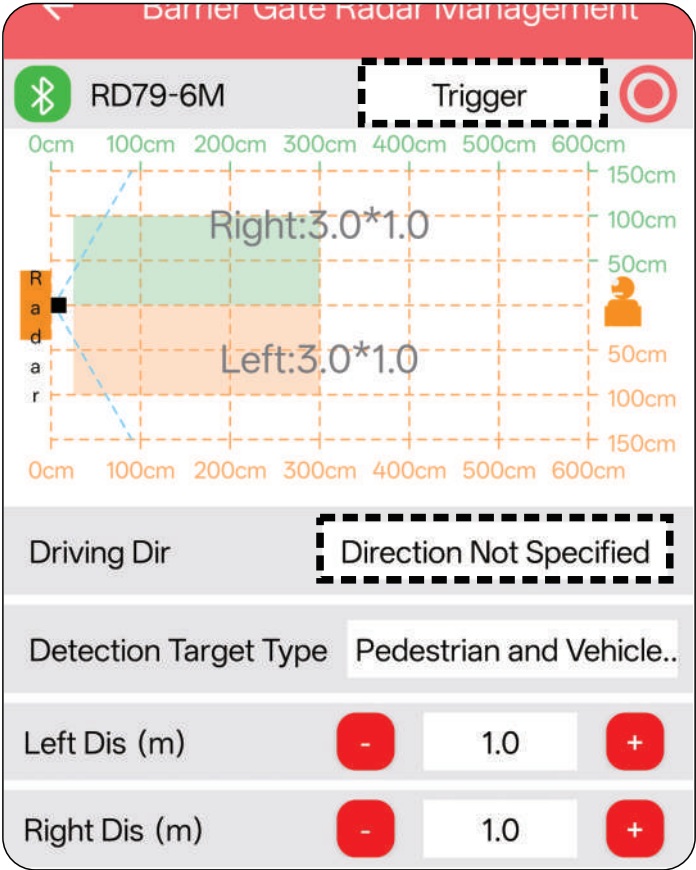
More

Parameter Configuration Succeeded

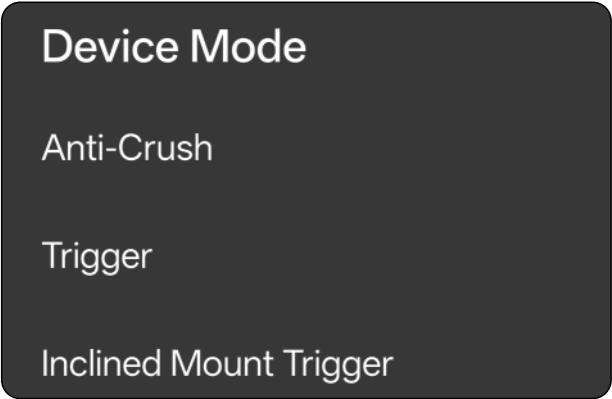
Configuration Success Screen

Trigger Mode

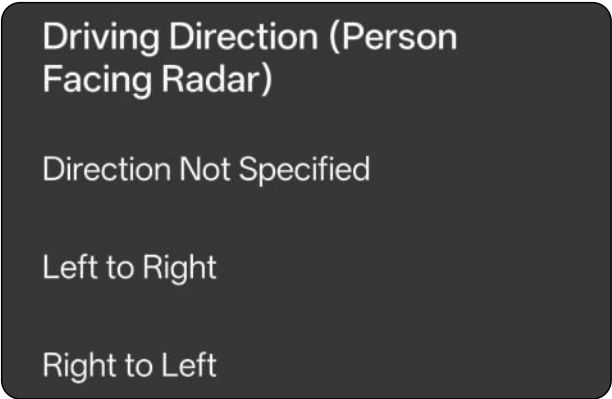
The trigger mode now includes an additional travel direction (person facing the radar), allowing selection between left-to-right or right-to-left, or opting for no directional distinction.



Parameter Settings Interface



Device Mode Interface



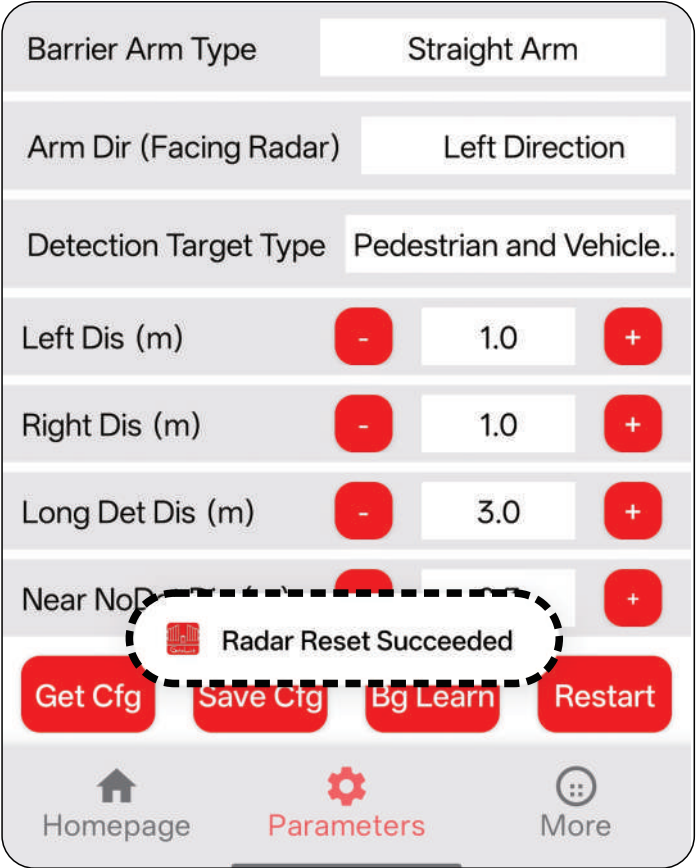
Driving Direction Interface

Restart

Click the restart button to restart the radar.



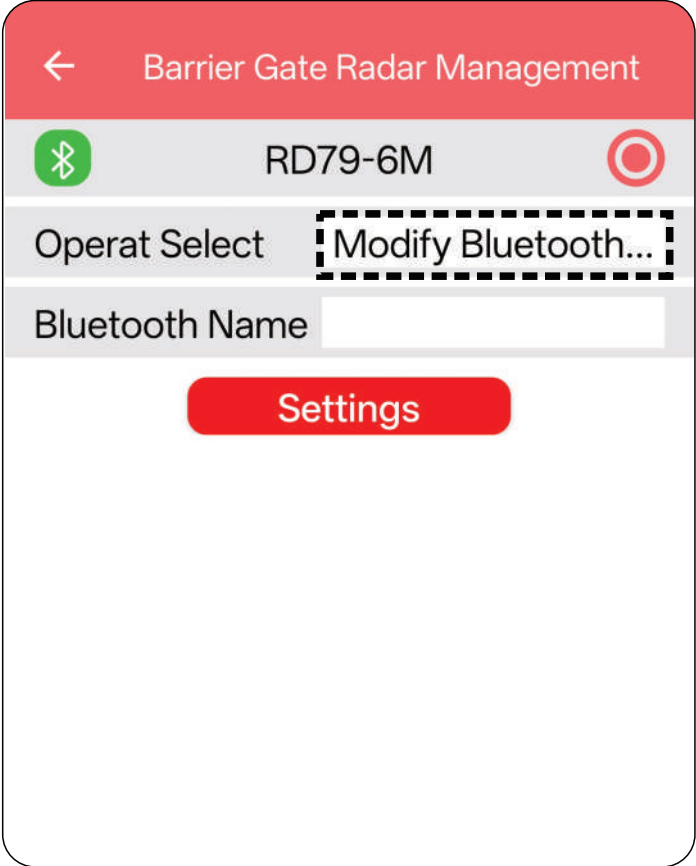
Parameter Settings Interface



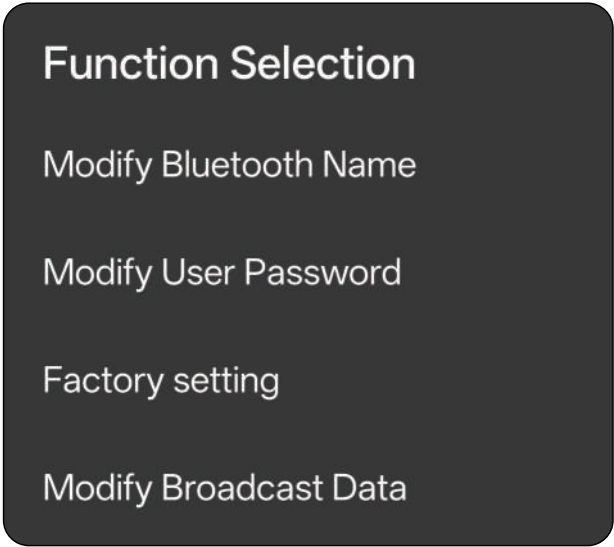
Radar Reset Interface

More Settings

Additional settings allow you to modify the Bluetooth name, change the user password, and restore factory settings. After successfully changing the user password, you must exit the app and log in again to make further changes.

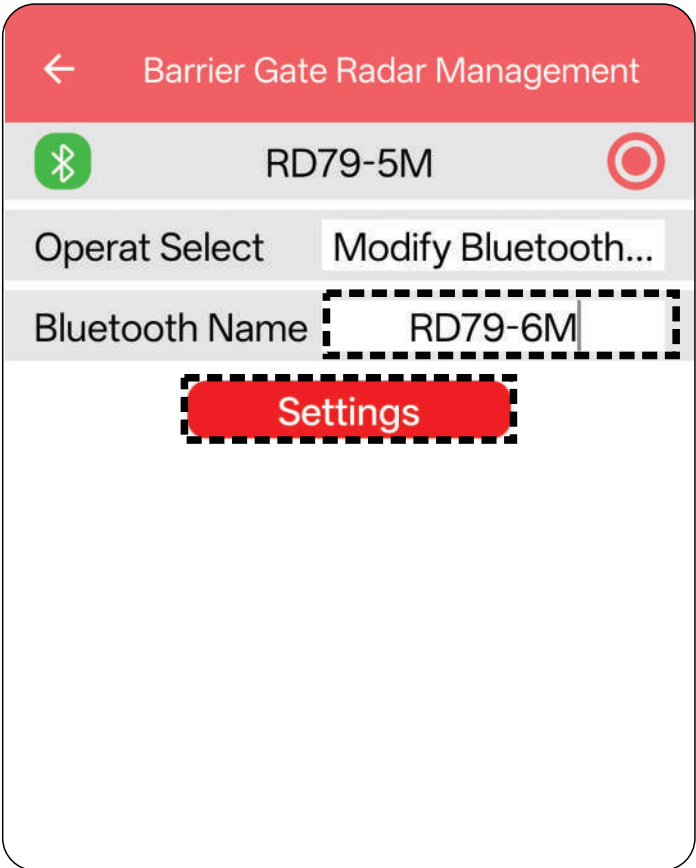


More Settings Interface

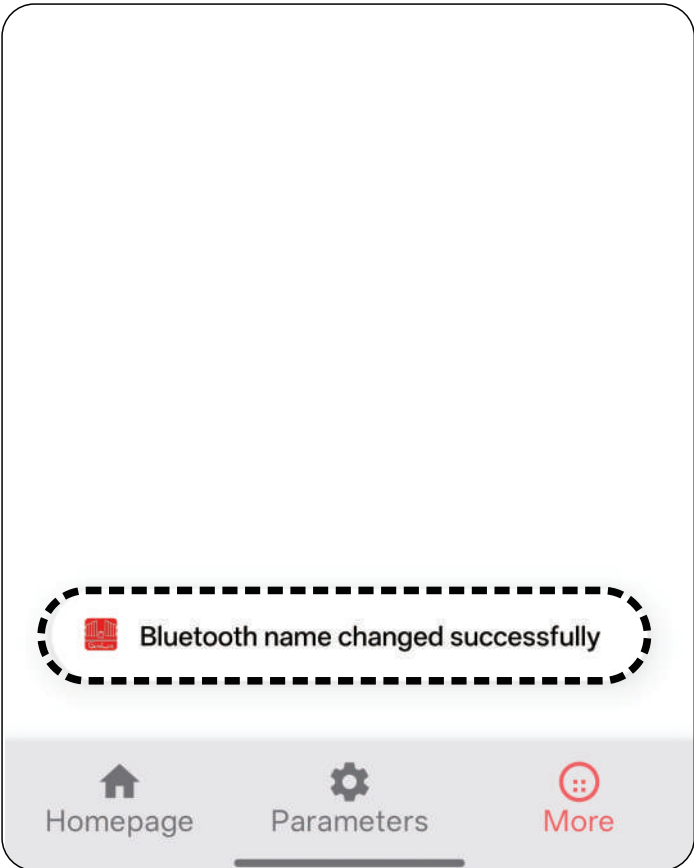


Function Selection Interface

Change Bluetooth name



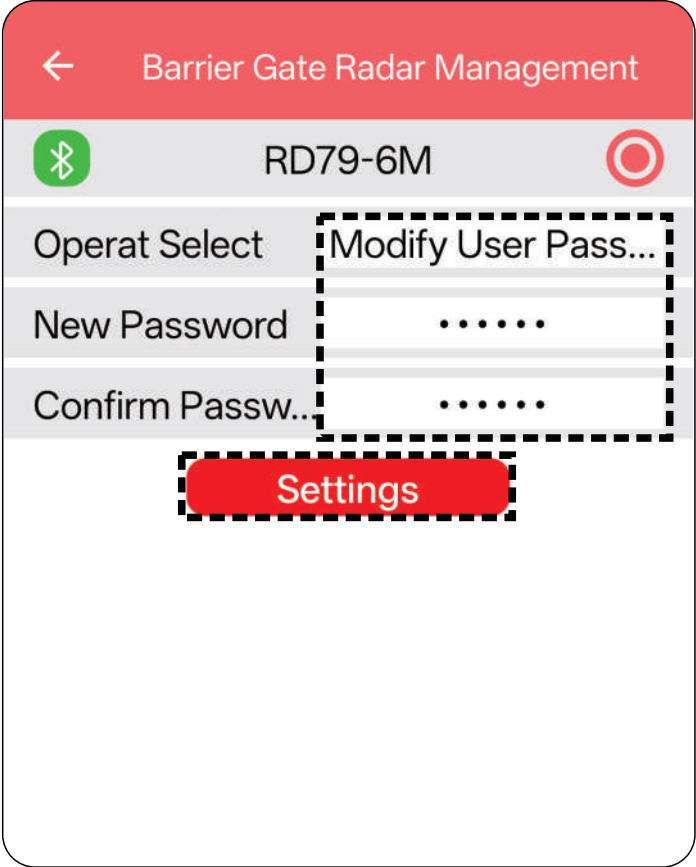
More Settings Interface



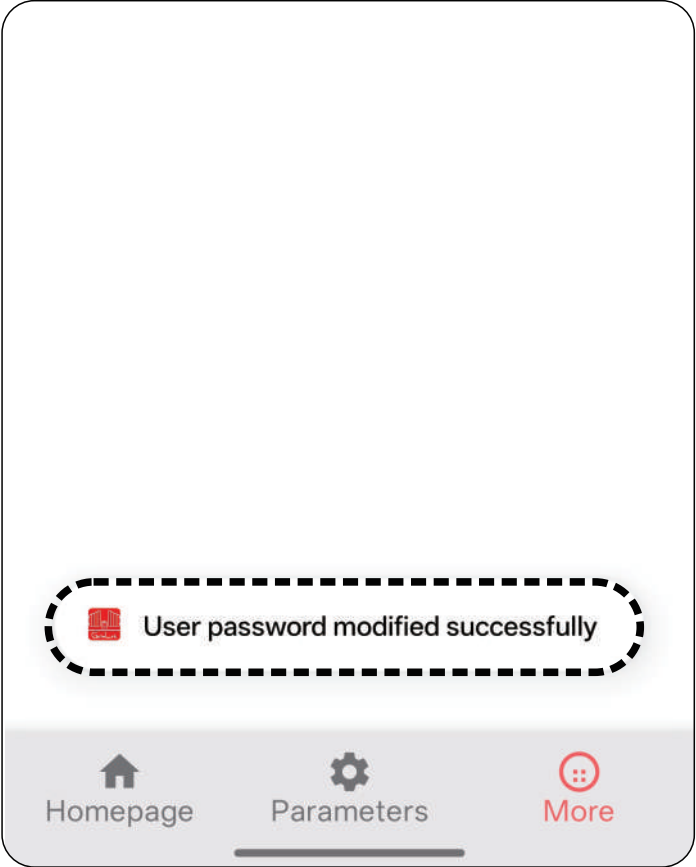
Name Change Successful Screen

Change User Password

The password length must be between 6 and 8 characters.



More Settings Interface

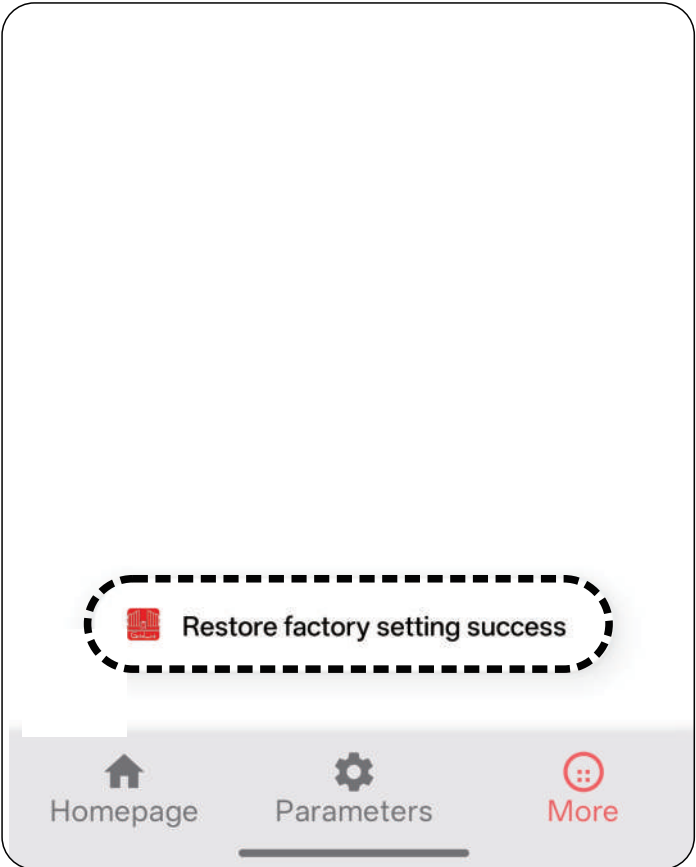


Password Change Successful Screen

Restore factory settings



More Settings Interface



Factory Reset Successful Screen

8. Precautions

1. Ensure stable power supply voltage to the radar to prevent performance degradation. It is recommended to use a separate external 12V/1A power adapter for powering the radar.
2. Promptly clean the radar surface if obstructions (such as rainwater, frost, snow, dust, etc.) interfere with normal operation.
3. When the detection environment changes (e.g., installing traffic cones or other objects in the detection area), perform a new radar background learning procedure.
4. Radar use is not recommended in single-channel mixed-in/mixed-out scenarios featuring barrier gates and advertising poles.
5. For scenarios involving vehicles with body gaps exceeding 1 meter (e.g., trailers or cement mixer trucks), a dual-radar installation configuration is advised.
6. During background learning, ensure the barrier arm is fully lowered and stable before proceeding with subsequent operations.