ROTECH Rotech Automation
Vehicle Access Control | Pedestrian Access Control | Safety & Security
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# RD79 6M Safety Radar
# Instruction Manual



# 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.

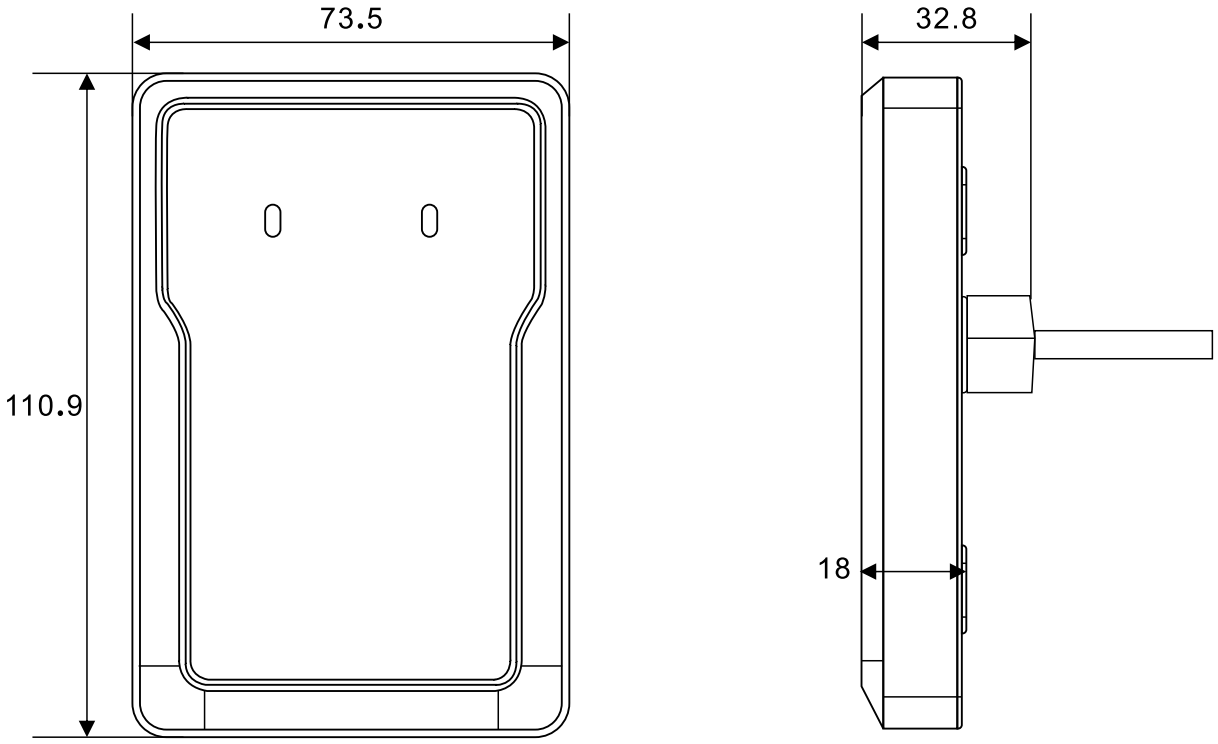
## 2. Product Highlights

- ▶ 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.

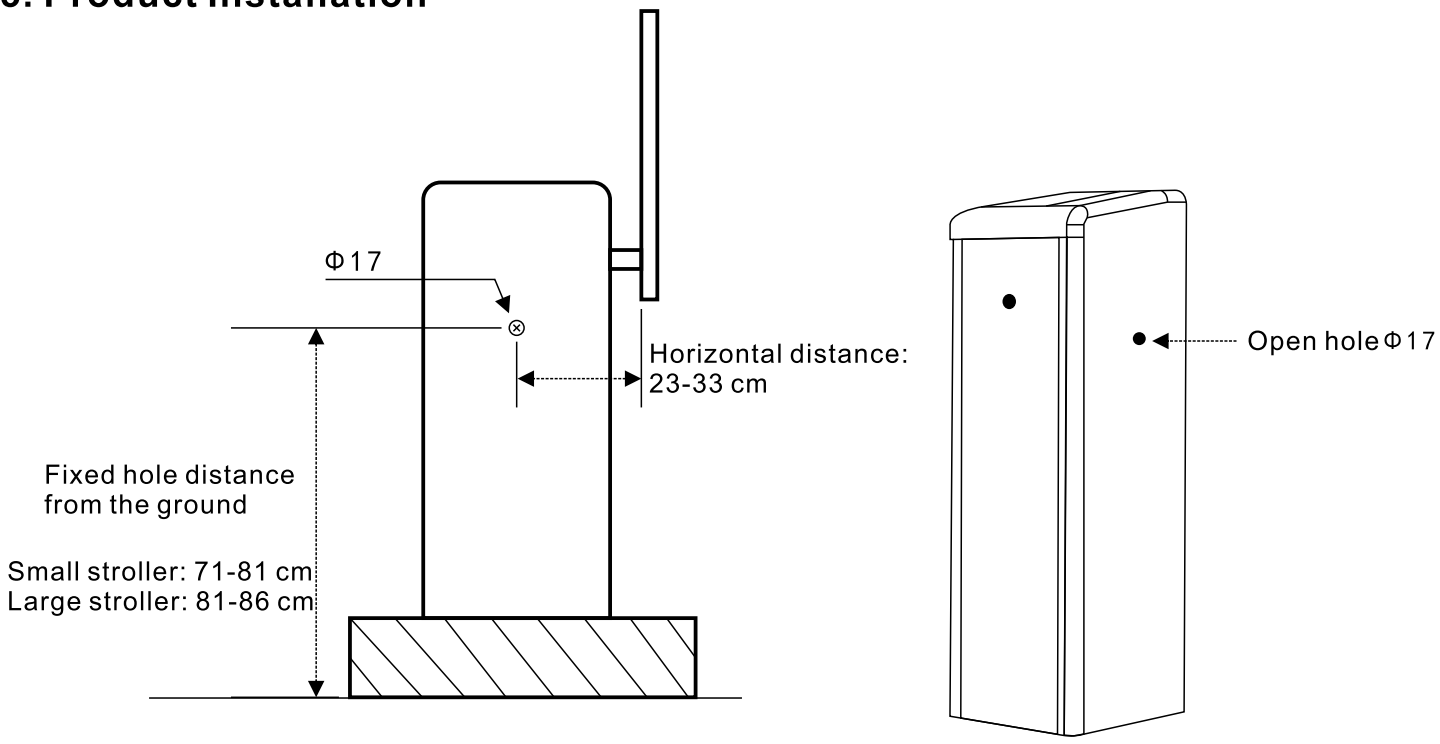
## 3. Product Specifications

| | |
|---|---|
| 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 |

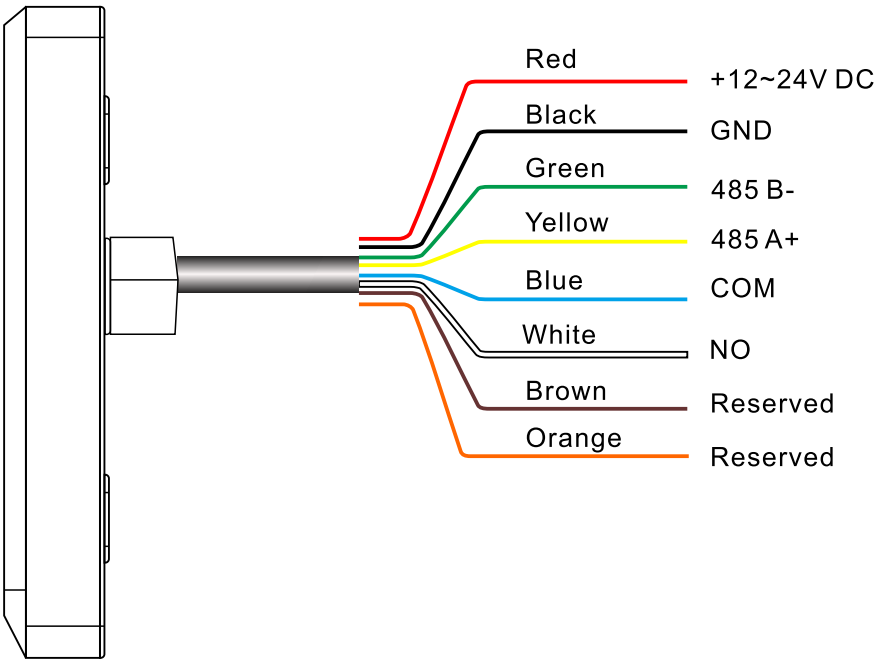
## 4. Product Appearance And Dimensions (Unit: mm)




## 5. Product Installation



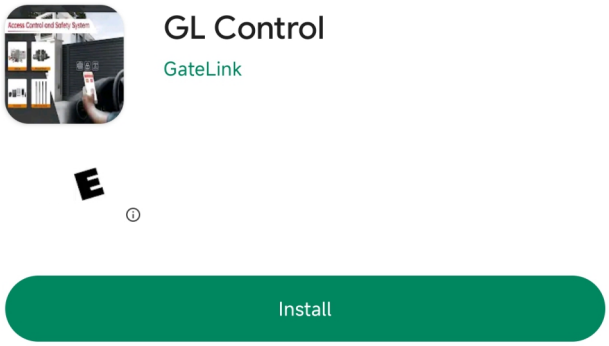
## 6. Wiring Definitions




## 7.Radar Settings

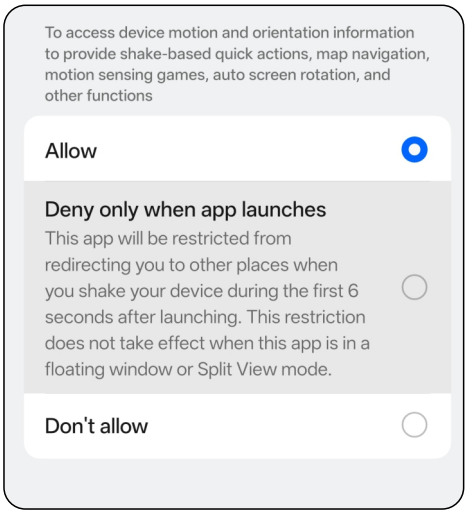
Scan the QR code to download the Radar Settings app (Android version).
Search for GL Control in the Apple App Store.

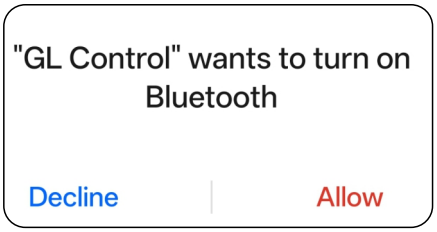
**QR Code Download**




**Google play store/IOS store**

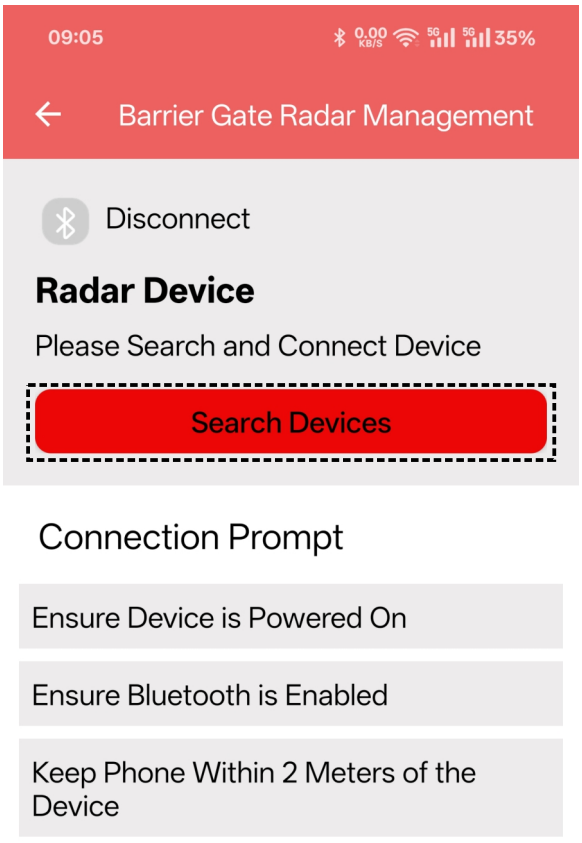
Before opening the software, enable Bluetooth and location services.

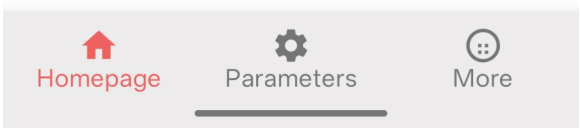



Open the software, click RD79-6M, then click Search Devices.

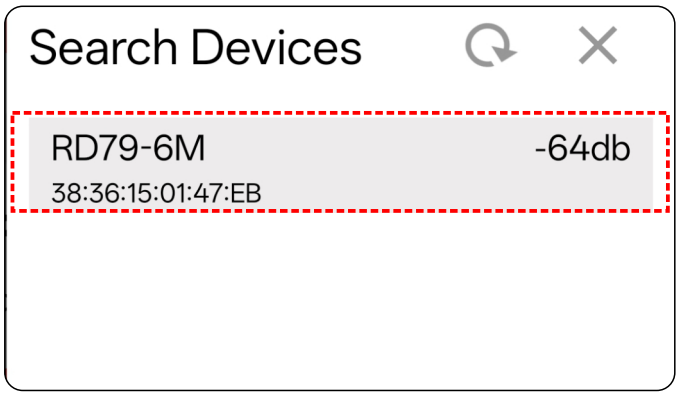


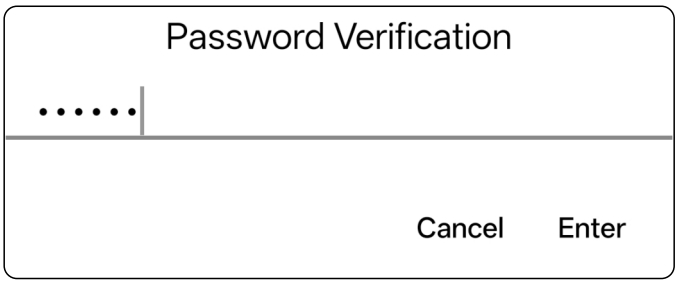



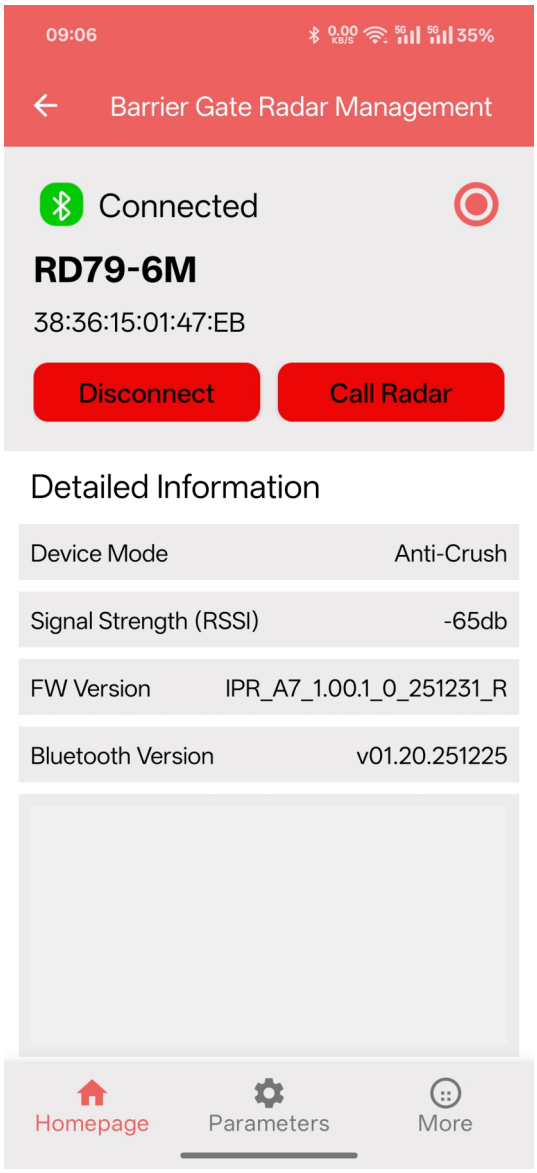

Home Page Interface

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.



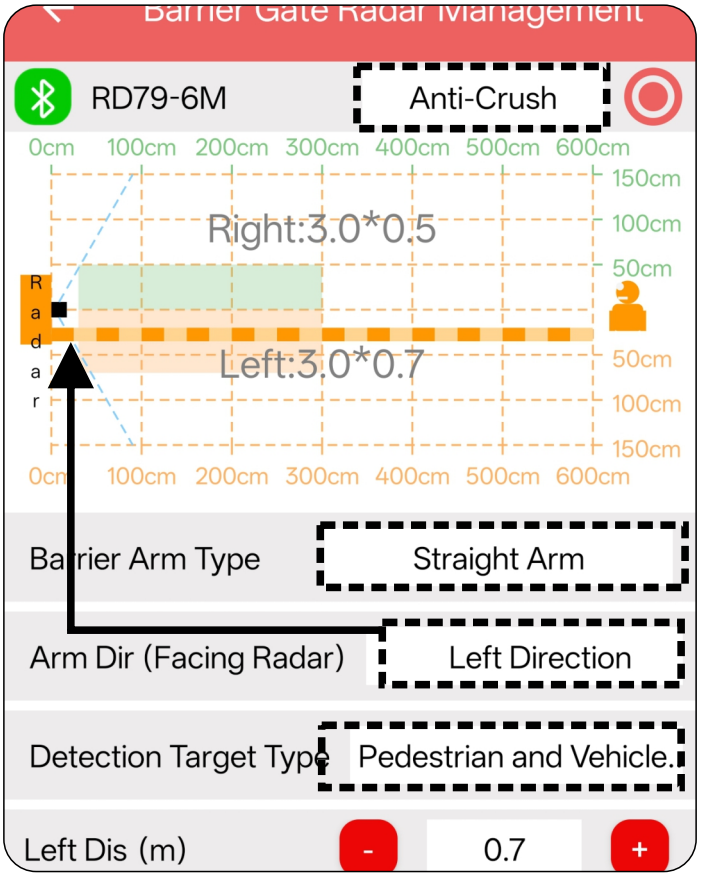

Home Page Interface



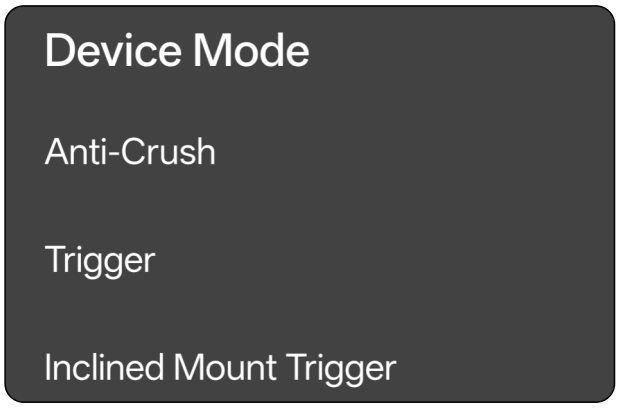

Parameter Settings Interface

## Set radar Mode And Parameters

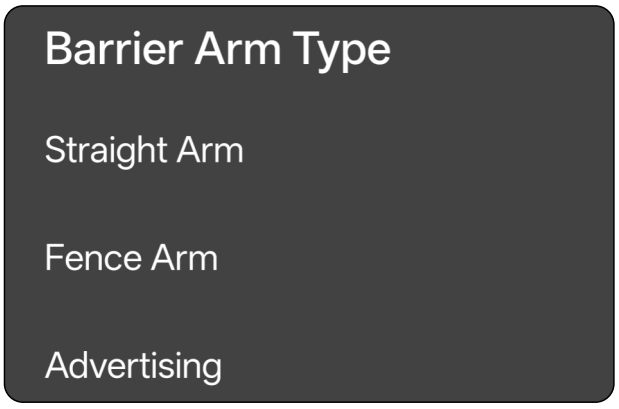
The RD79-6M radar can be configured in three modes: anti-crush, trigger, and slanted-mount trigger. In anti-crush mode, select the barrier arm type and direction (as viewed by a person facing the radar), and also choose the target detection type.



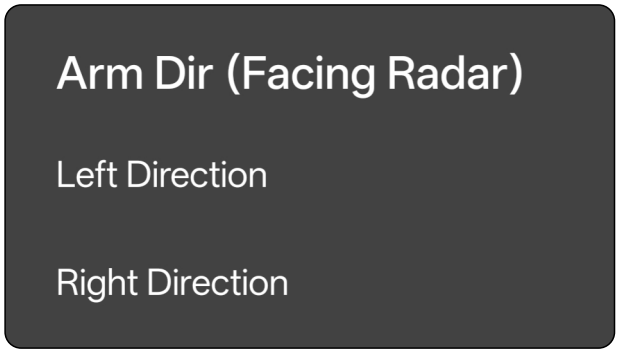

Parameter Settings Interface



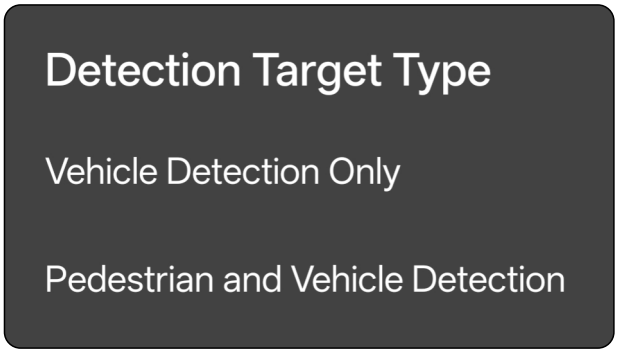

Device Mode Interface




Barrier Arm Type Interface



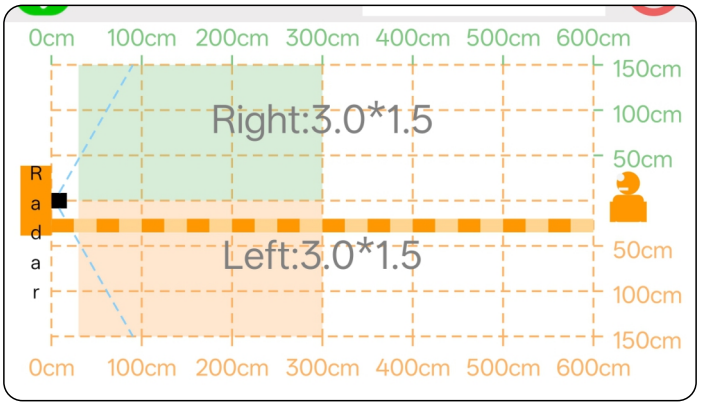

Barrier Arm Direction Interface



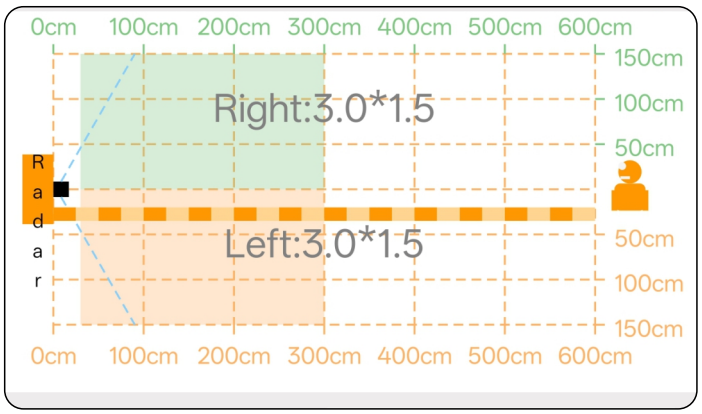

Target Type Detection Interface

## Set Radar Detection Range

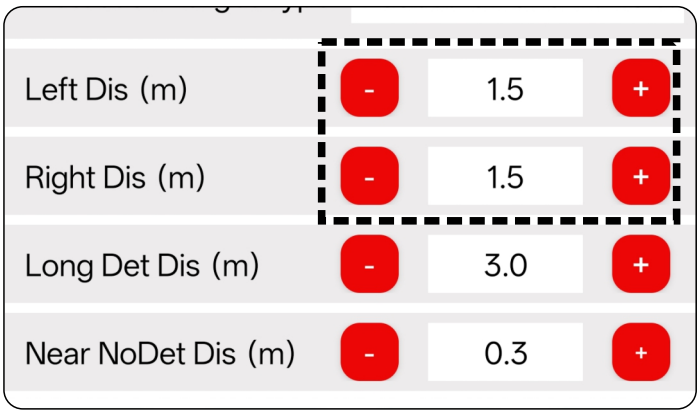
Set the left-right distance based on the actual scenario; this setting primarily addresses customer requirements for anti-impact zone configuration and can be adjusted as needed.



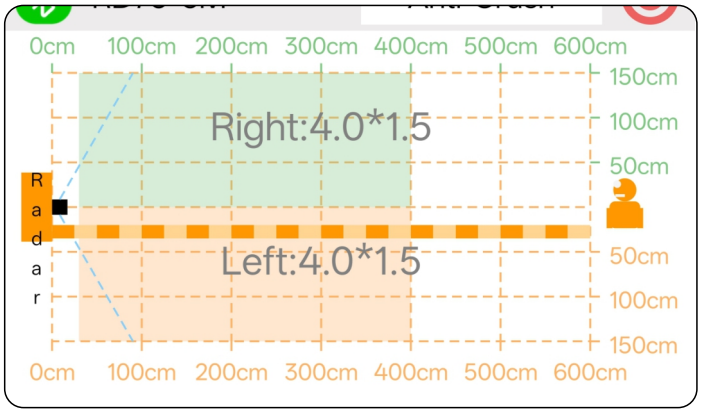

Radar Detection Range Interface



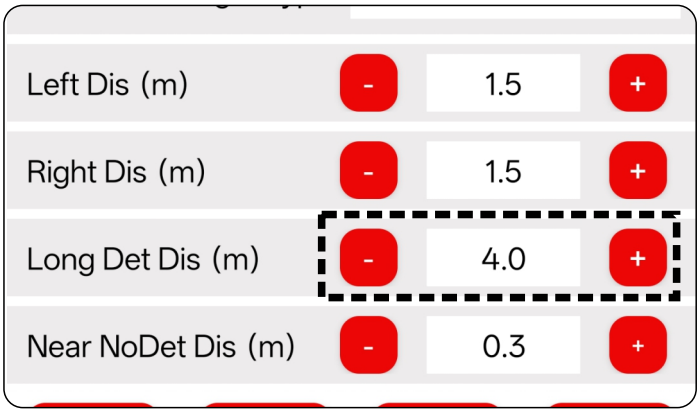

Radar Detection Range Interface



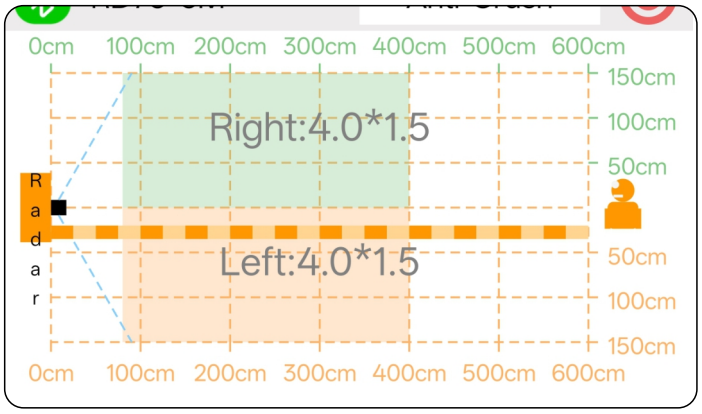

Radar Detection Settings Interface



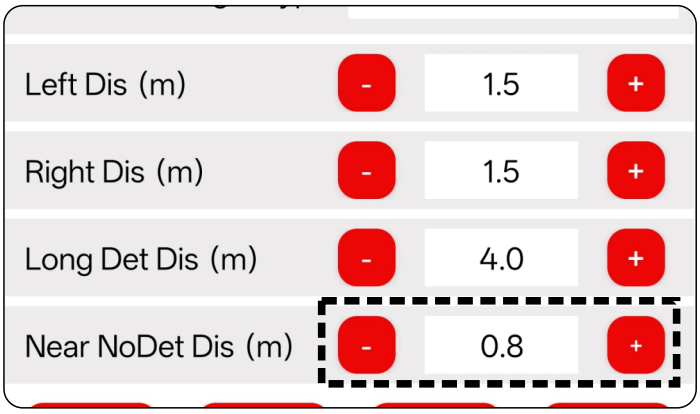

Radar Detection Range Interface




Radar Detection Settings Interface



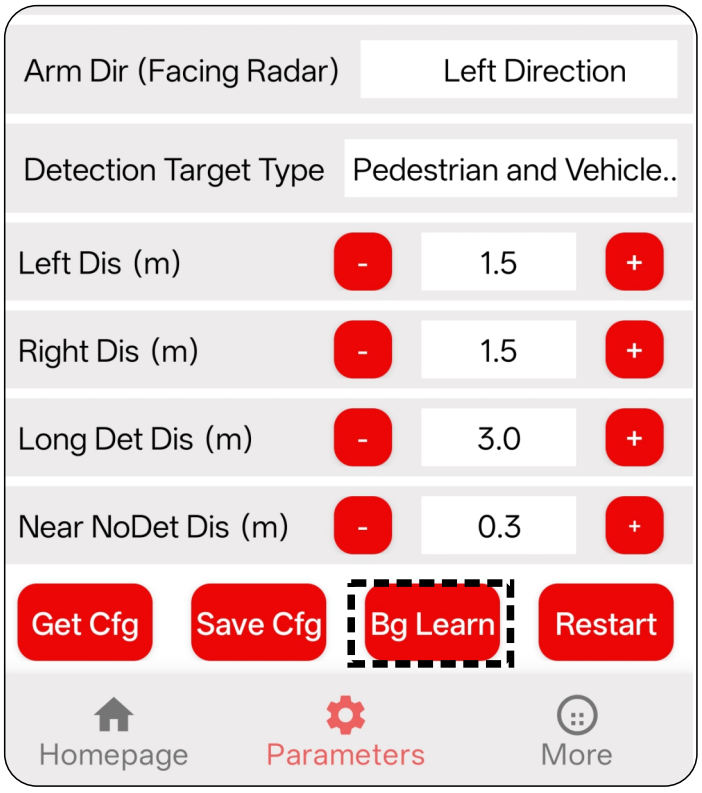

Radar Detection Range Interface



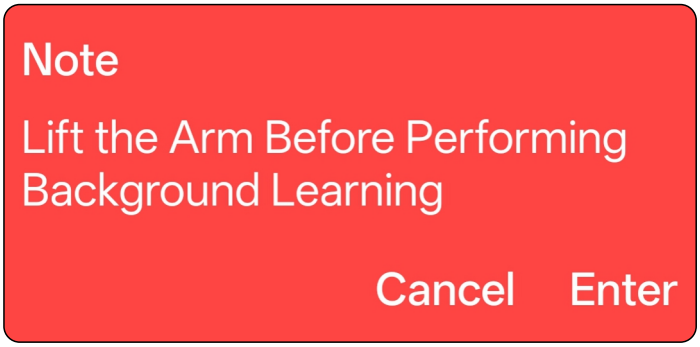

Radar Detection Settings Interface

## Background Study

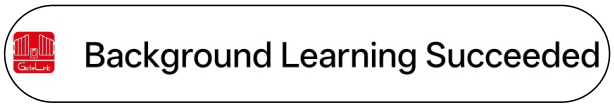
After confirming the parameter settings are complete, raise the barrier arm and ensure no other targets (people or vehicles) are within the radar detection zone. Click “Background Learning.” During the learning process, ensure no “people” or ‘vehicles’ enter the detection area. The radar indicator light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




Parameter Settings Interface



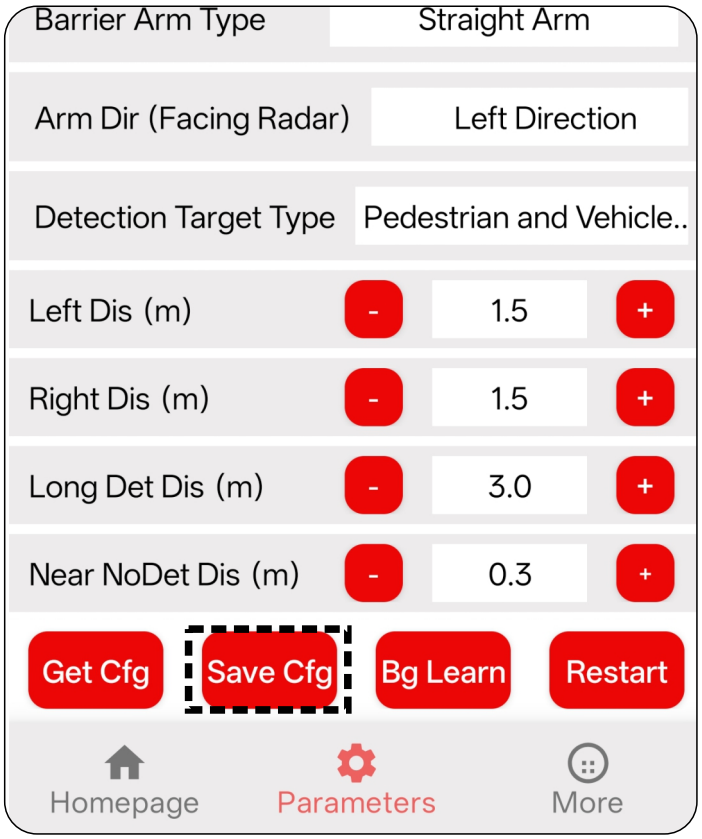

Background Learning Interface



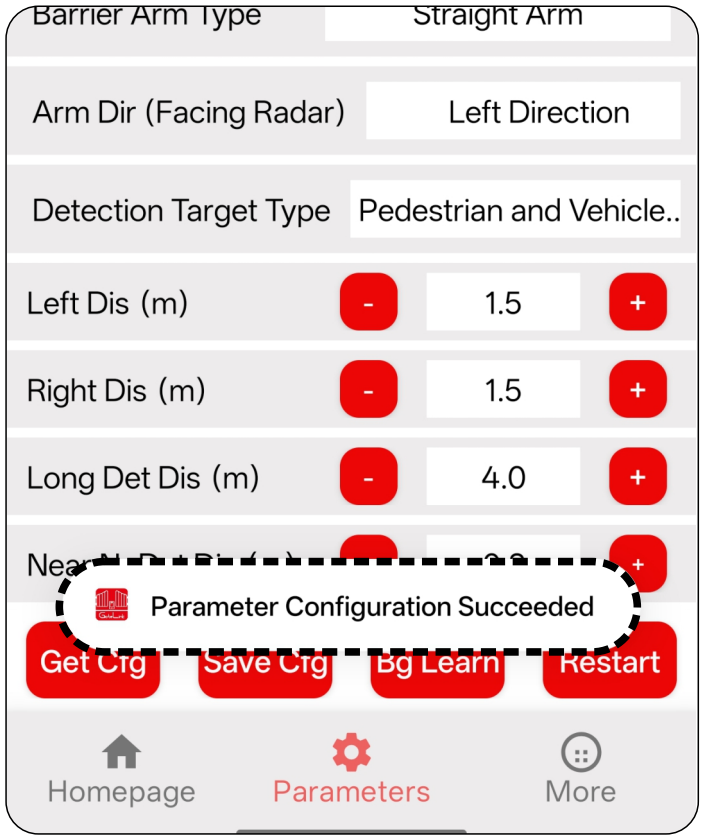

Learning Success Interface

## Save Configuration

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



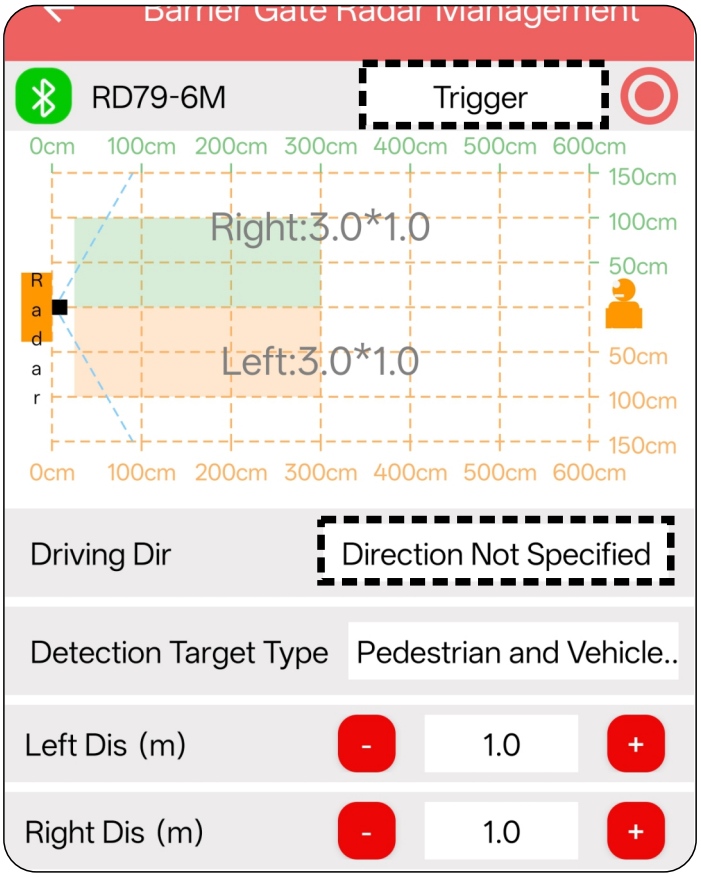

Parameter Settings Interface



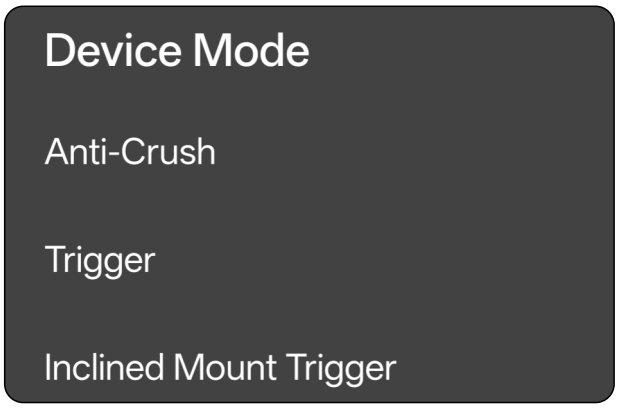

Configuration Success Screen

## Trigger Mode

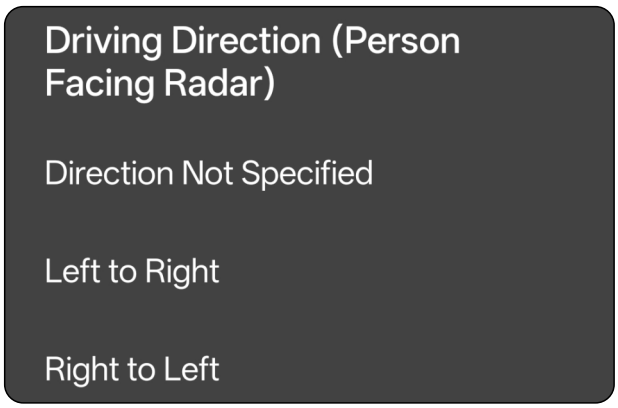
The trigger mode now includes an additional travel direction (person facing the radar), allowing selection between left-to-right or right-to-left, or opting for no directional distinction.




Parameter Settings Interface



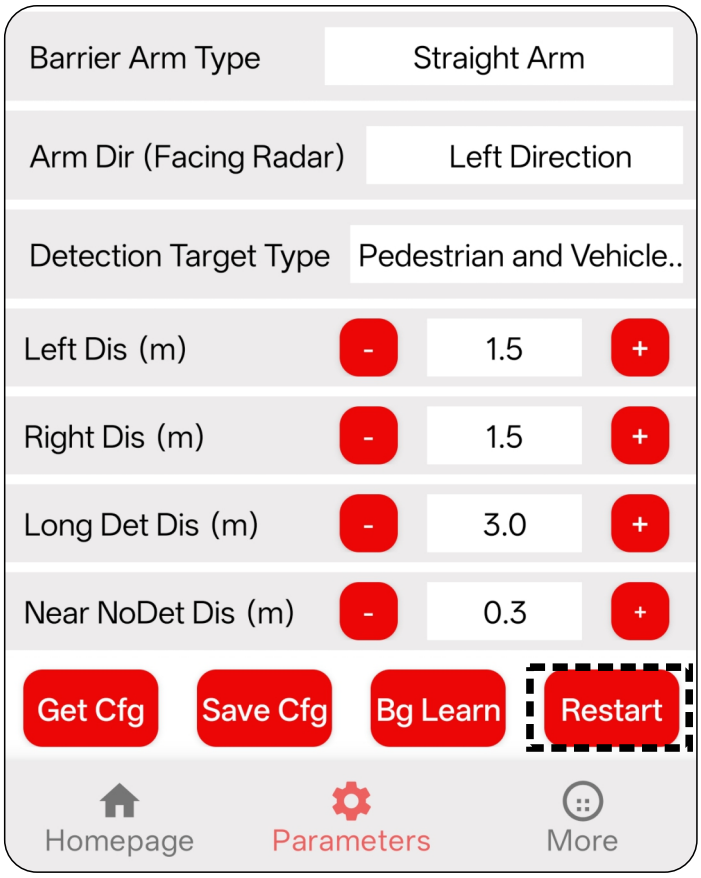

Device Mode Interface



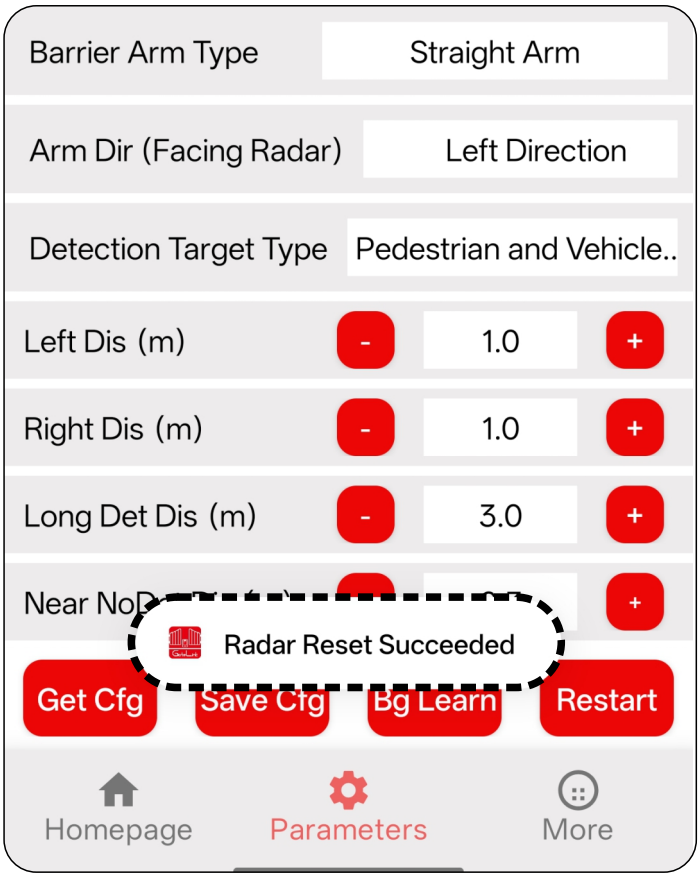

Driving Direction Interface

## Restart

Click the restart button to restart the radar.



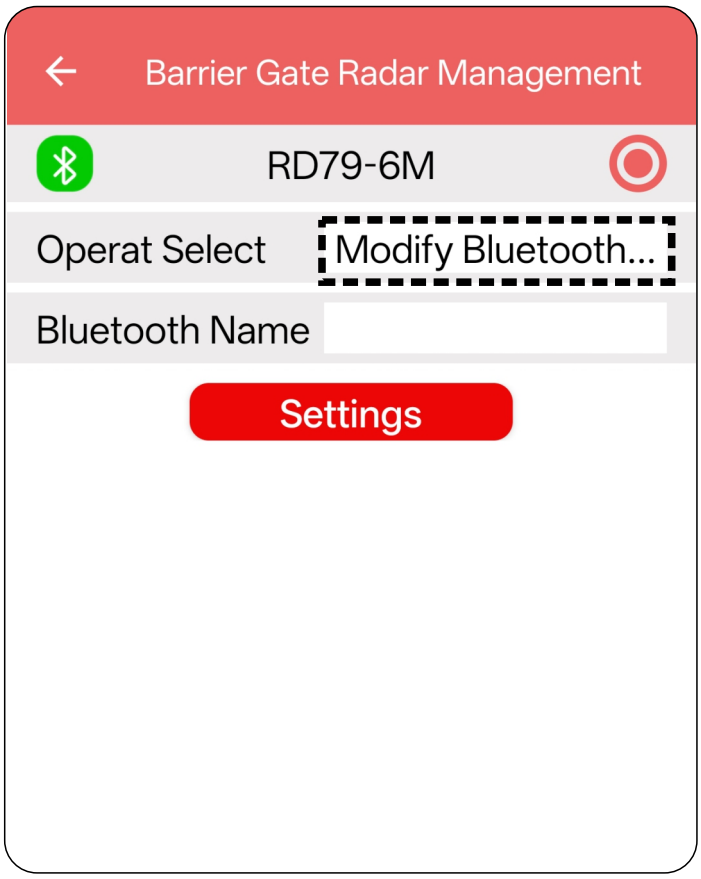

Parameter Settings Interface



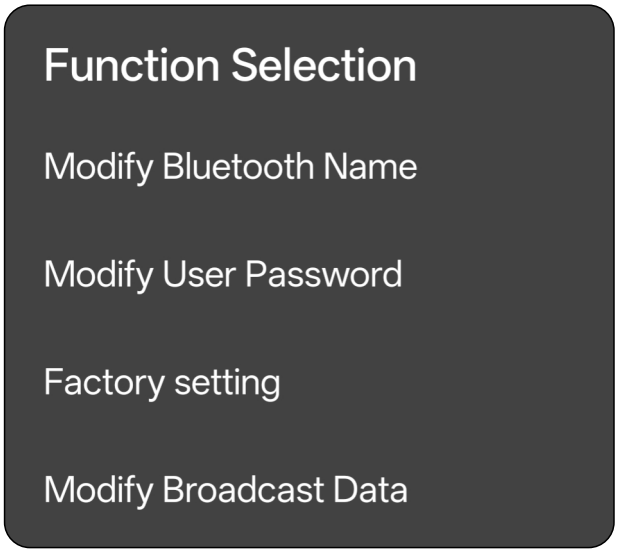

Radar Reset Interface

## 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.

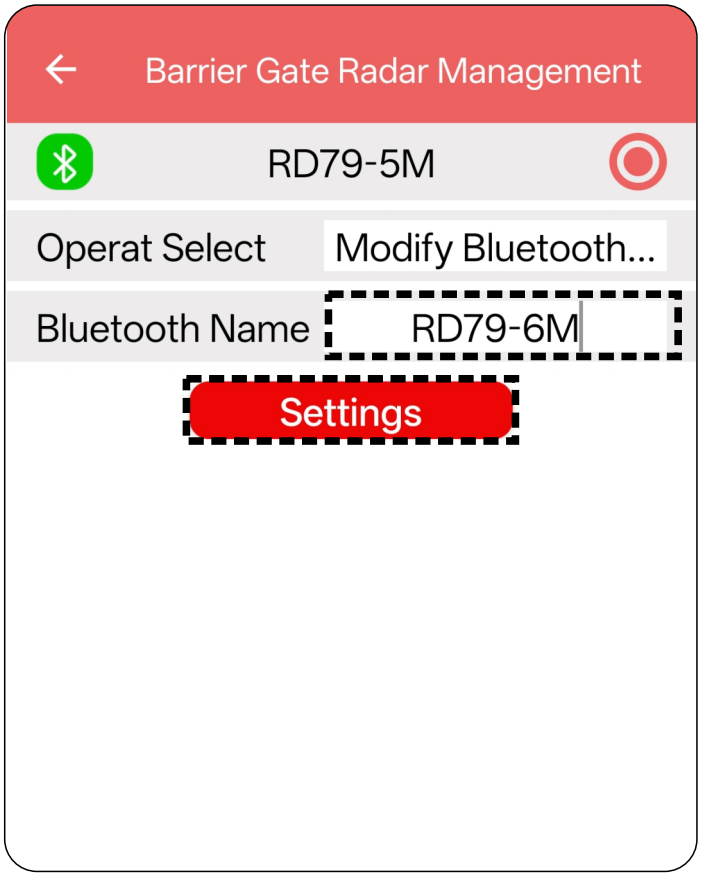



More Settings Interface

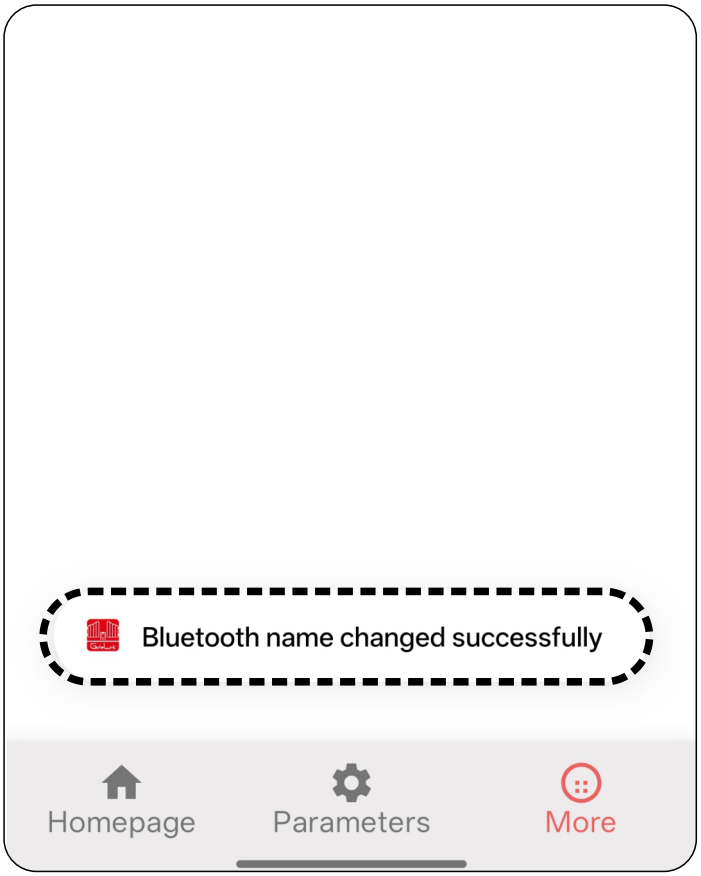



Function Selection Interface

### Change Bluetooth name



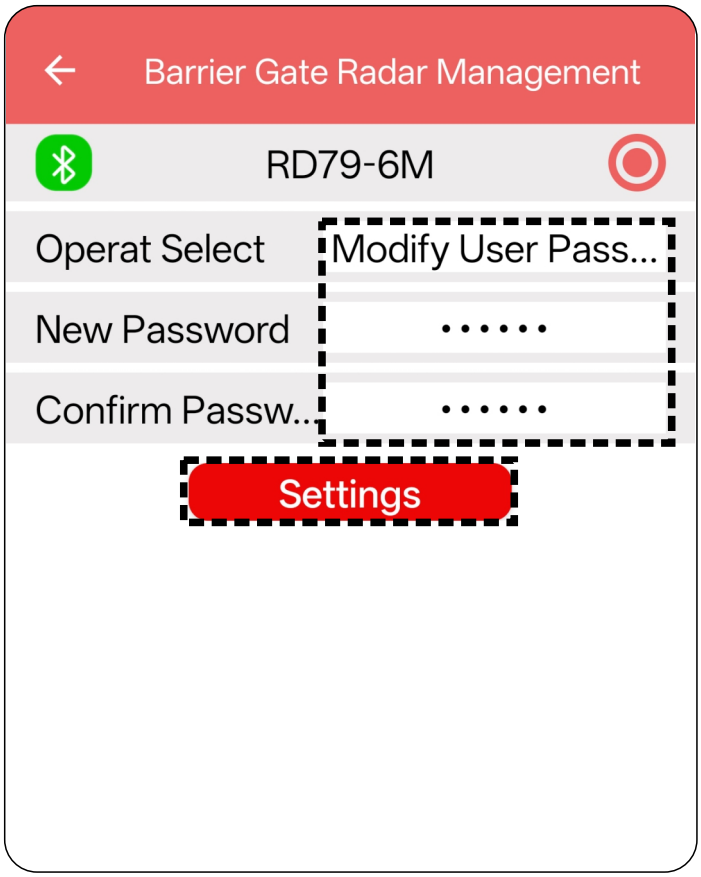

More Settings Interface



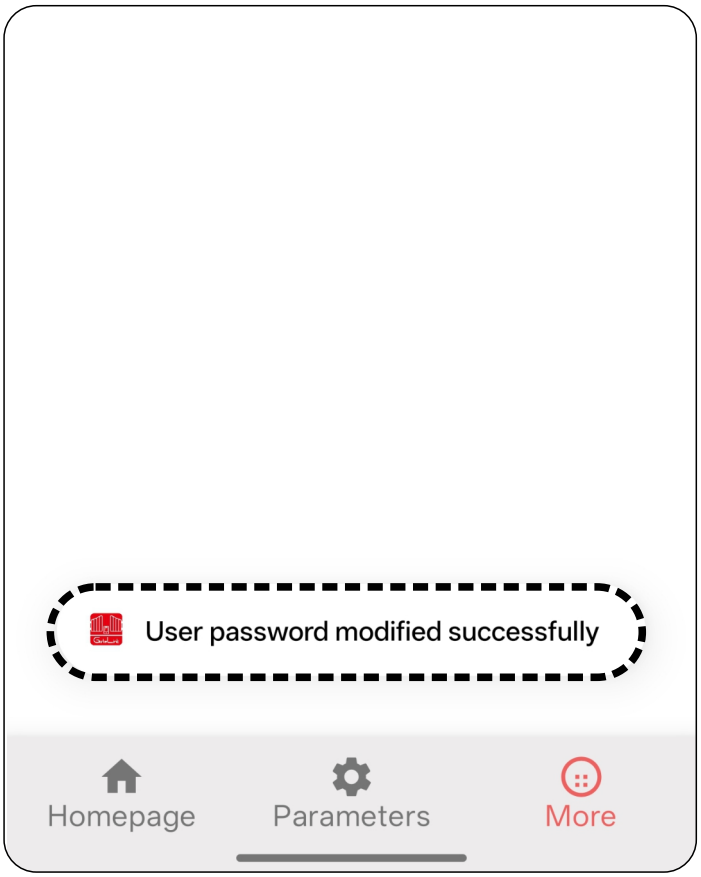

Name Change Successful Screen

## 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.



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