

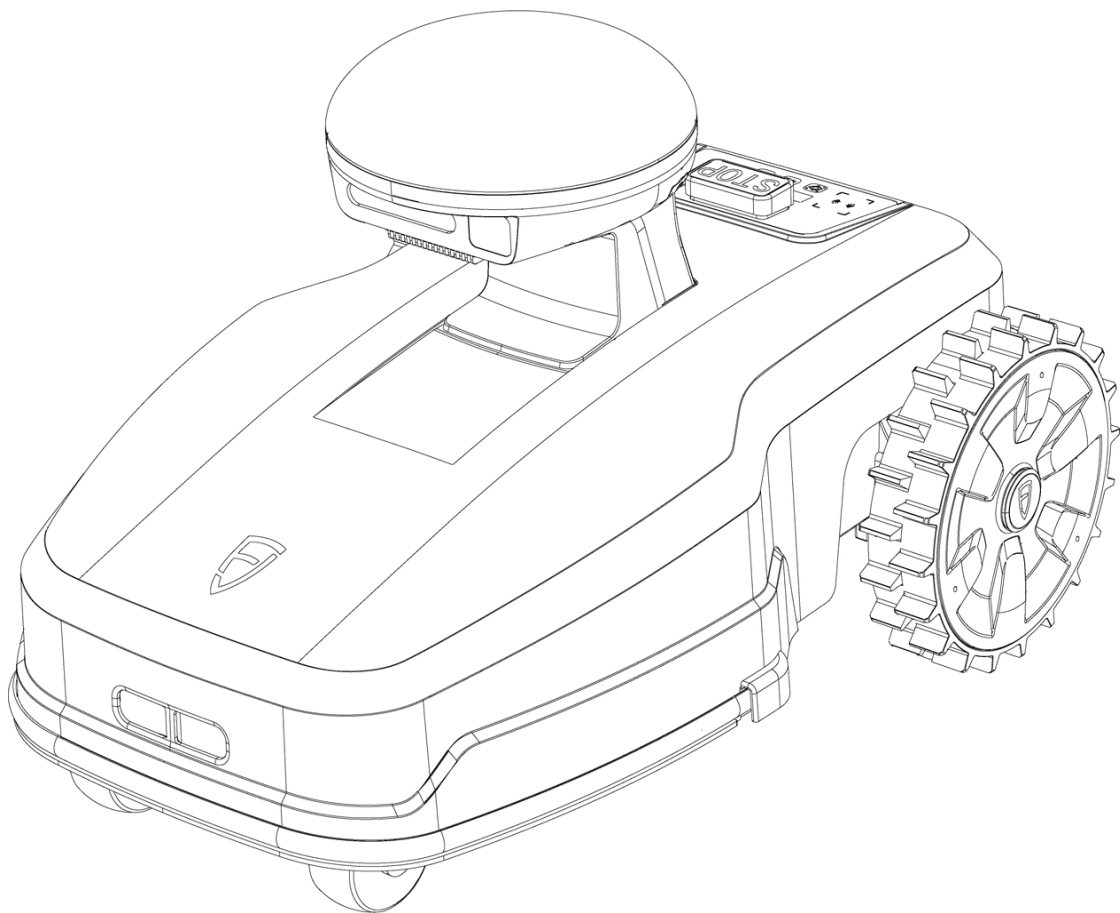
FJDynamics FR4000 Robotic Mower User Manual

Cover Page

FR4000 Robotic Mower Manual



FJDynamics



FR4000 Robotic mower

Copyright Page

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Preface

- How to Use the Manual: Instructions on how to navigate and use the manual effectively.

Legend

 Warning

 Important

 Hints and Tips

 Reference

1. Safety Information

1.1 Safety Definitions

Warnings, cautions, and notes are used to highlight particularly important parts of the manual.

- **WARNING:** Indicates a risk of injury or death for the operator or bystanders if the instructions in the manual are not followed.
- **CAUTION:** Indicates a risk of damage to the product, other materials, or the adjacent area if the instructions in the manual are not followed.
- **Note:** Provides additional information that is necessary in a given situation.

1.2 General Safety Instructions

WARNING: Read the following warning instructions carefully before using the product.

Read the Operator's Manual: Ensure you understand the instructions before using the product. Keep the manual for future reference.

Supervision and Instruction: This appliance is not intended for use by children or persons with reduced physical, sensory, or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning the use of the appliance by a person responsible for their safety. EU requirements allow this appliance to be used by children aged from 8 years and above and persons with reduced physical, sensory, or mental capabilities or lack of experience and knowledge, if they have been given supervision or instruction concerning the use of the appliance in a safe way and understand the hazards involved. Children shall not play with the appliance. Cleaning and user maintenance shall not be done by children without supervision.

Operator Responsibilities: The operator assumes full responsibility for all accidents or hazards that occur to people or property while using this equipment. This responsibility includes proper installation, safe operation, and maintenance of all safety features. The operator must ensure all additional users are properly trained in safety procedures and must maintain constant supervision of the work area when the equipment is in use.

1.2.1 Work Area Safety

WARNING: Failure to follow proper safety procedures may result in injury or damage to property.

When operating in public areas, warning signs must be prominently displayed at all entry points to the work area. Each sign must clearly state: "Warning! Robotic lawn mower working! Keep away and supervise children and pets." These signs must remain clearly visible throughout the operation and should be removed when the mower is not in use.

The work area must be completely cleared of people, especially children, and all pets before operation begins. No one should enter the work area while the mower is operating. All toys, recreational equipment, garden tools, and debris must be removed from the area before starting the mower.

1.2.2 Equipment Safety

The safe operation of this equipment depends on using only FJDynamics-recommended components and original FJDynamics batteries. The use of unauthorized parts may compromise safety features and void warranty protection. All safety features and warning labels must be maintained in good condition and replaced if damaged or illegible.

Power supply cables require special attention for safe operation. All cables must be routed outside the mowing area to prevent damage. The installation must include an appropriate Residual-Current Device (RCD) for electrical safety. Operators must inspect cables regularly for signs of wear or damage. If any cable becomes damaged during operation, immediately disconnect it from the power outlet and contact authorized service personnel for replacement. A damaged or worn cable presents a serious electrical hazard and must never be used.

1.2.3 Operational Safety

The mower must be immediately powered off if any abnormal vibration occurs or if damage is detected. In the event of an accident or injury, seek immediate medical attention. Before performing any maintenance, clearing blockages, or examining the product, the mower must be completely powered

off and all moving parts must come to a complete stop.

Never touch the blade disc or other moving parts until they have completely stopped moving. When maintenance is required, particularly when changing blades, proper protective gloves must be worn and appropriate tools must be used. This ensures both operator safety and prevents damage to the equipment.

1.2.4 Maintenance

WARNING: Always power off the product before maintenance.

Regular maintenance inspections must be performed weekly. This includes checking blade conditions, verifying safety features are functioning properly, and ensuring warning signs remain visible and legible. The emergency stop function should be tested before each use.

Indoor storage is required when the mower is not in use. The storage area must be inaccessible to children, and the mower must be thoroughly cleaned before storage. All power connections should be disconnected during long-term storage.

1.2.5 Charging Station Safety

The Charging Station provided with your mower is specifically designed for this model. No other charging methods should be used. The station must be installed in a location that meets all clearance requirements and must be kept free of debris. During thunderstorms, disconnect all power and wiring from the Charging Station to protect the electrical components. After the storm passes, reconnect all wires carefully, ensuring proper connections.

1.2.6 Battery Safety

WARNING: The Charging Station provided with your mower is specifically designed for this model. No other charging methods should be used. The station must be installed in a location that meets all clearance requirements and must be kept free of debris. During thunderstorms, disconnect all power and wiring from the Charging Station to protect the electrical components. After the storm passes, reconnect all wires carefully, ensuring proper connections.

Original Batteries: Use only original batteries recommended by FJDynamics. Product safety cannot be guaranteed with non-original batteries.

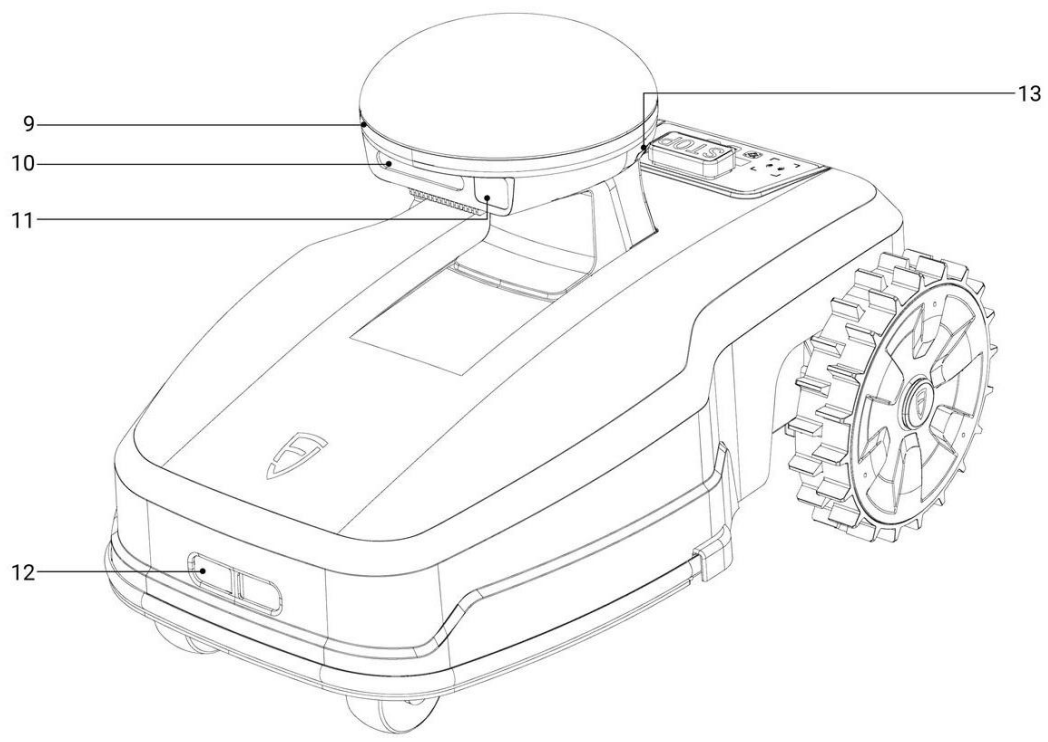
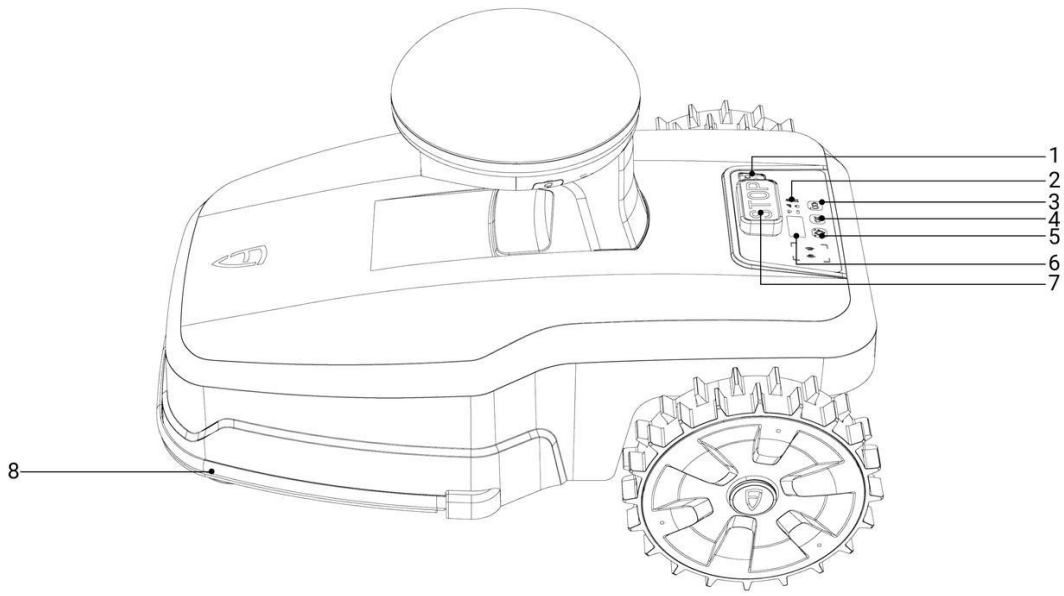
The mower must only be charged using the included Charging Station. In the event of battery electrolyte leakage, immediately flush the affected area with water or an appropriate neutralizing agent. If any corrosive liquid contacts your eyes, seek immediate medical attention.

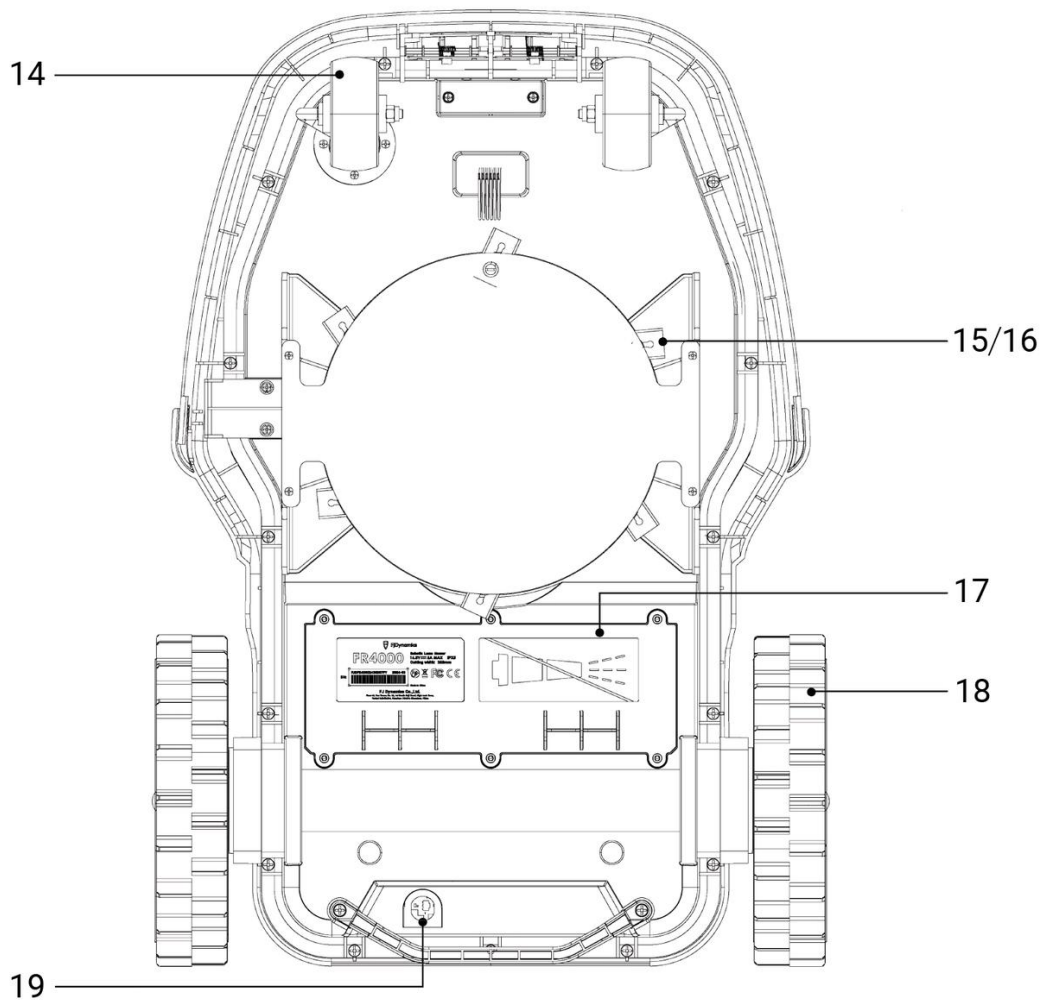
1.2.6.1 Maintenance and Storage

Indoor storage is required when the mower is not in use. The storage area must be inaccessible to children, and the mower must be thoroughly cleaned before storage. All power connections should be disconnected during long-term storage.

2. Product introduction

2.1 Lawn mower

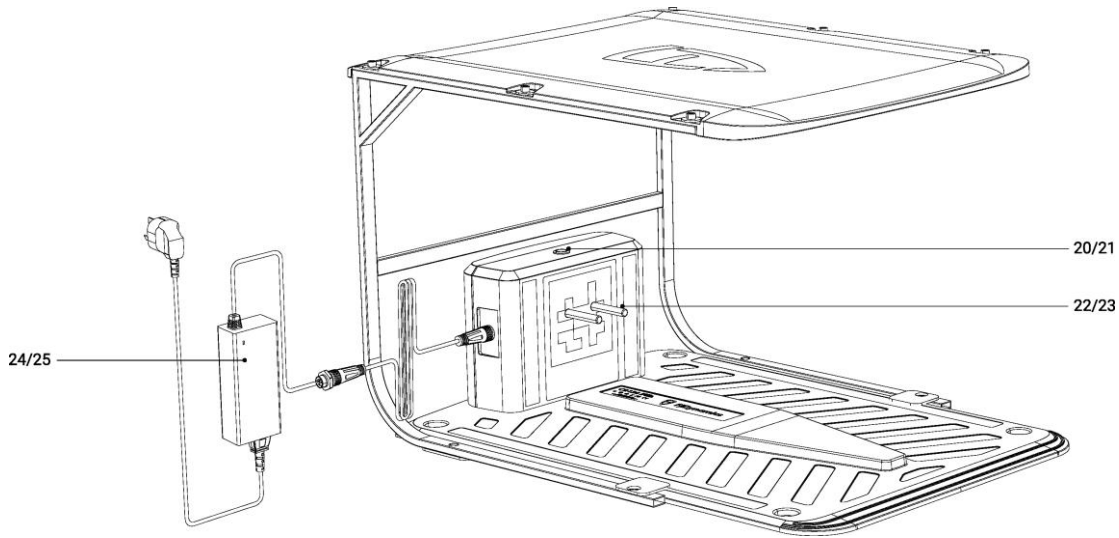




Number	Component name
1	Rainfall sensor
2	Indicator area
	Wi-Fi indicator light
	4G signal indicator light
	Bluetooth indicator light
	Power indicator
	Lock indicator light
	Lawn mower blade indicator light
3	Charge button

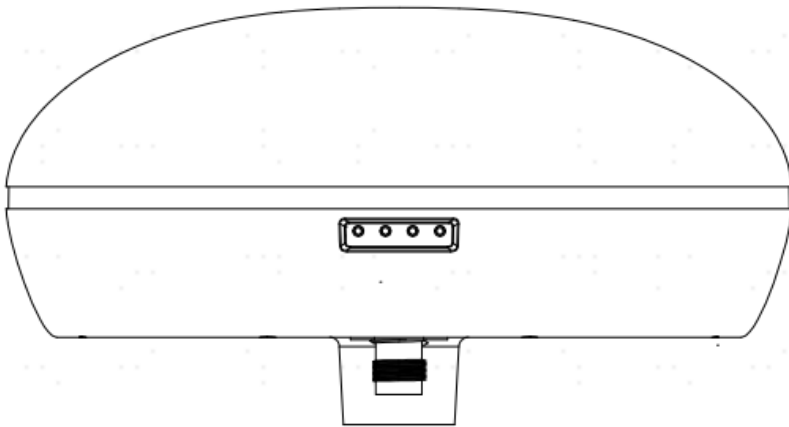
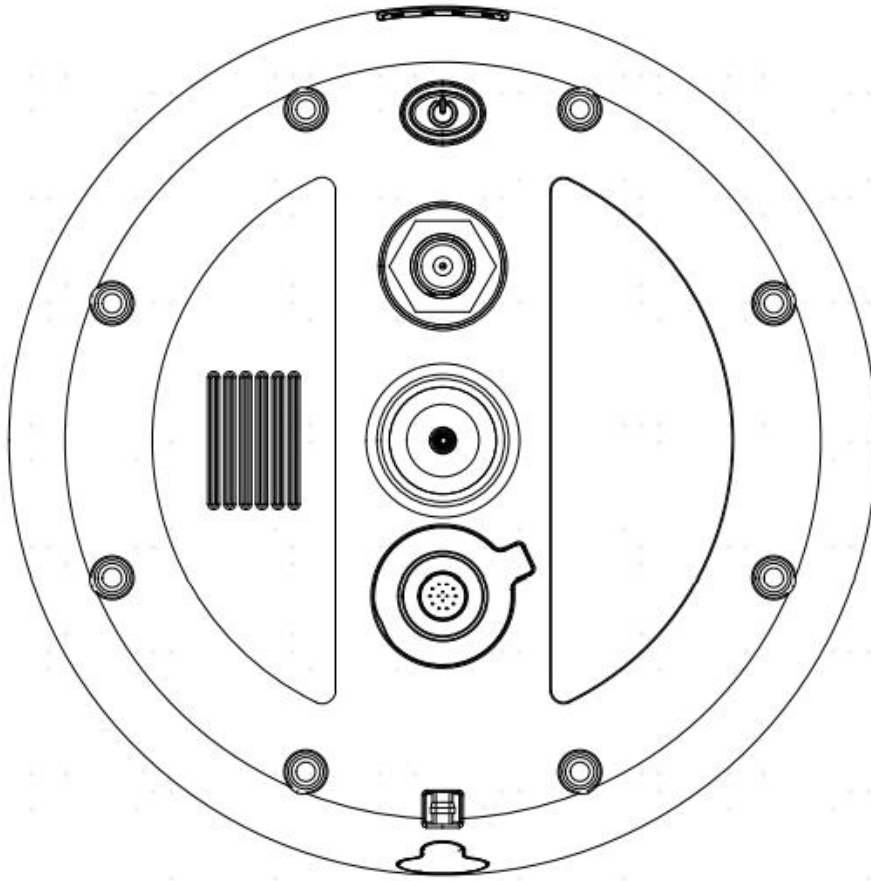
4	Confirm button
5	Mowing button
6	Digital display
7	Emergency stop button
8	Collision bar
9	Light strip
10	Binocular camera
11	Monocular camera
12	Charging interface
13	SIM card slot
14	Universal wheel
15	Cutting blade
16	Cutting disc
17	Battery compartment
18	Driving wheel
19	Power switch

2.2 Charging station



Number	Component name
20	Top button
21	<p>Status indicator light: Green always on: turned on and paired. Orange: not paired, or the lawnmower is not turned on.</p> <p>Green 10Hz flash: Green 3-second flash during startup initialization: Direct charging mode. Green 1-second flash: Bluetooth protocol charging mode, output controlled by the car</p>
22	Charging interface
23	Charging electrode
24	Power supply
25	Power adapter

2.3 Base station



Serial number	Name		Description
4	Indicator	Power supply (Green)	Green: The base station always lights up in green after being powered on.

		Data (Green)	Pure green: The base station does not transmit differential data. Green flashing: Differential data is being transmitted, and the indicator light is flashing at the transmission frequency.
		Satellite (Red and green)	Green flashing: Fixed solution, RTCM stream is being transmitted. Red flashing: Star search anomaly
		Wireless Bluetooth indicator	Blueout: ESP communication timeout Always bright blue: ESP is working normally

2.4 Product specifications

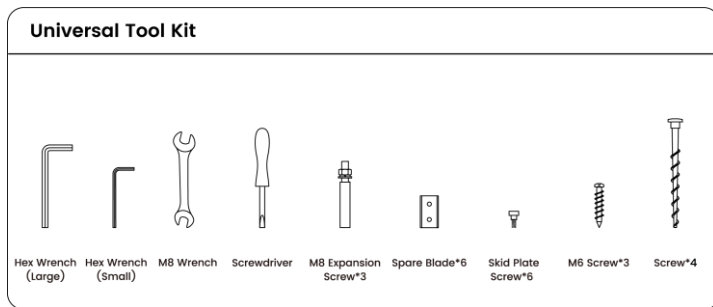
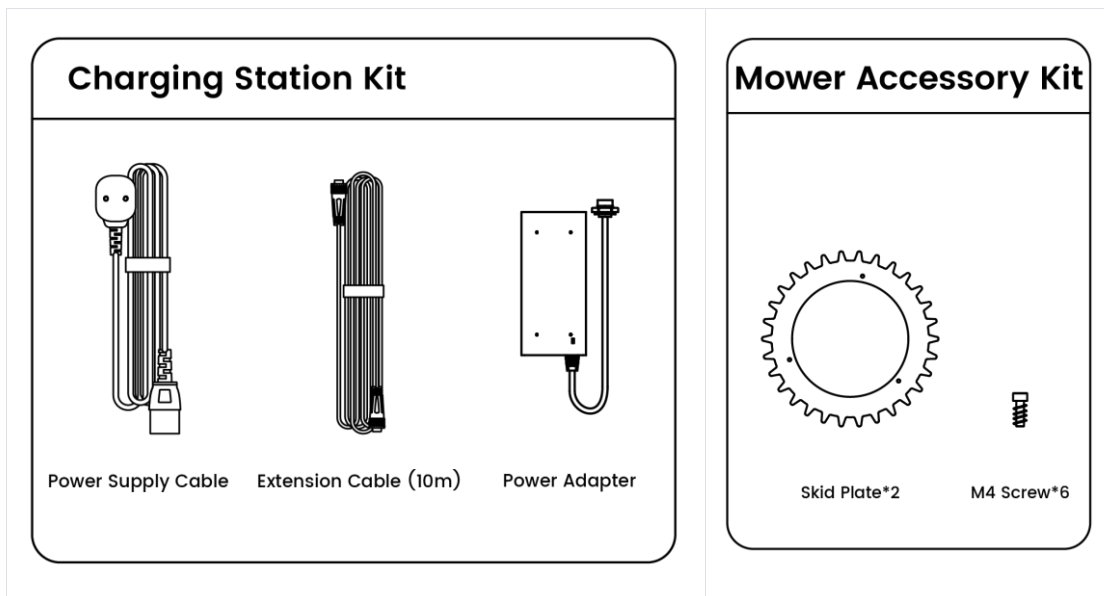
Module	Functional operation	Data for May 2025
Machine parameters	Waterproof and dustproof grade	Body IPX5, base station IP67, charging pile IP65
	Recommended operating temperature	0~35°C
	Long-term storage temperature	0~25°C
	Cutter adjustment range	20mm-60mm、 10mm-50mm(With the help of structural components)
	Cutting width	260mm
	Battery pack capacity	190Wh

	Battery pack voltage	16.8V
	Charging time	2h
	Walking speed in three gears	Maximum 0.5m/s.
	Cutter speed in three gears	1st gear; 2nd gear; 3rd gear;
Functional parameters		
	Supports Wi-Fi and BT	Support
	Support 4G communication	Support
	Support satellite positioning communication	Support
	Network RTK	Support
	Raindrops	Support
	Lift up	Support
	Tilt	Support
	Collision	Support, front collision
	Camera	Support 1 monocular and 1 binocular camera

	OTA upgrade	Support
	Operating area	A single plot should not exceed 4000 square meters
	Visual fusion	Support visual fusion technology under the tree to solve RTK occlusion
	Work area	Support multi-plot, multi-forbidden area management, automatic recharge
	Operating angle	Support planning perspective changes

3. Preparation before use

3.1 List of goods

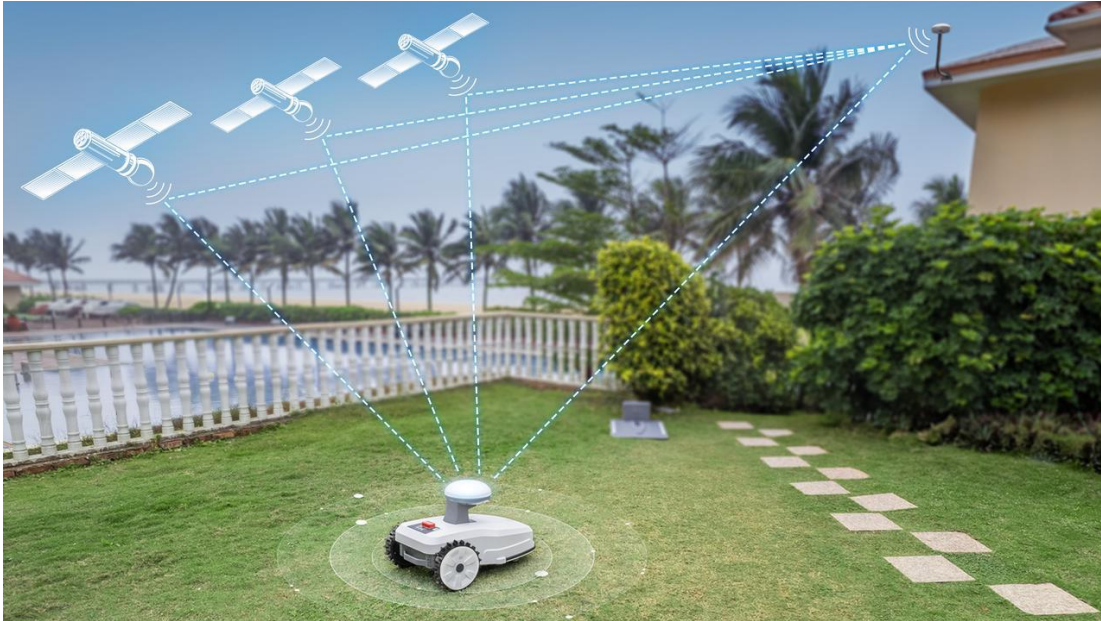


4. Install RTK

If you have a network RTK service number based on Ntrip, you can use the network RTK positioning solution without deploying an RTK antenna.

4.1 Install base station RTK antenna

In order to optimize the performance of the RTK system, the RTK antenna must be located in an open area to receive satellite signals. You can install the RTK reference station on a flat and open ground, or on a wall or roof. Generally, the RTK antenna can be placed on the ground, but if you have multiple courts, we recommend placing the RTK antenna on a wall or roof to improve stability and coverage.



4.1.1 Install RTK on the ground

If the RTK antenna installed on the wall/roof is not suitable for your usage scenario, you can choose to purchase our "Tripod Kit" accessories. You can check the detailed instructions below.

Site requirements

Choose a suitable location to install the reference station. The requirements are as follows:

1. Choose a place without trees or towers nearby. Also place your RTK antenna and tripod on open fields and as high terrain as possible.
2. Choose land with dense soil to ensure that the position remains unchanged after installation.
3. The position is not affected by collisions with operating machinery.
4. Choose an easy-to-find location.

Installation guidance

1. It is recommended to complete the first installation of the receiver in the following order:

a. On the selected plot, bury the benchmark station measurement pile in the ground and compact it; mark the top of the pin flush with the ground; mark the position of the pin for easy use next time.

b. Remove the receiver, antenna adapter, and radio antenna. Then connect the receiver's radio antenna and antenna adapter. The receiver needs to be installed on the center pole of the tripod; then

turn it on.

c. Place the bottom of the center rod of the tripod on the marked pin, and press the three legs of the tripod firmly; adjust the length of the three legs to center the horizontal bubble above the tripod.

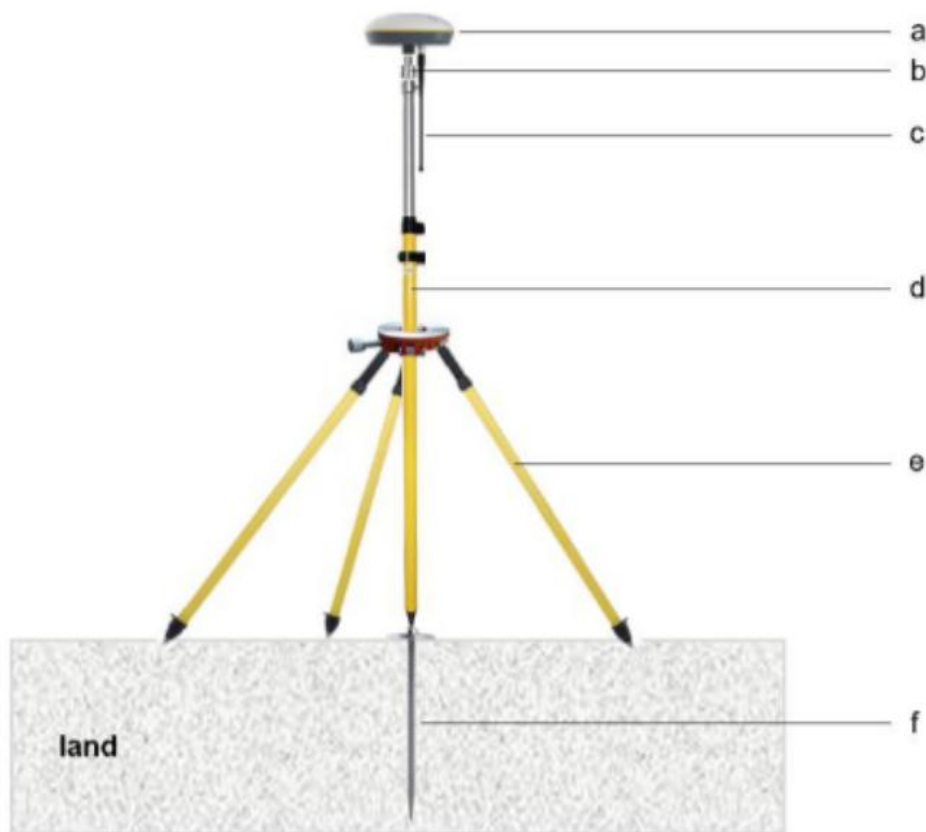
d. Set the center rod of the tripod to the appropriate height: 1.5-1.7 meters (make sure to set the same height each time).

e. Configure the coordinates of the starting reference station through the software app and record the starting coordinate value of the current position.

f. Start your lawn mowing task.

2. Second operation:

First, find the marking pin point of the first operation, repeat steps b and c, and then use the coordinate value of the first start to start the receiver of the reference station and start the operation.



a V1 receiver

b Adaptor with 5/8-inch screw

c Radio antenna

d Alignment pole

e Tripod

f Marking pin

3. The steps for removing the receiver are as follows:

a. Remove the receiver and turn it off;

b. remove the radio antenna and antenna adapter;

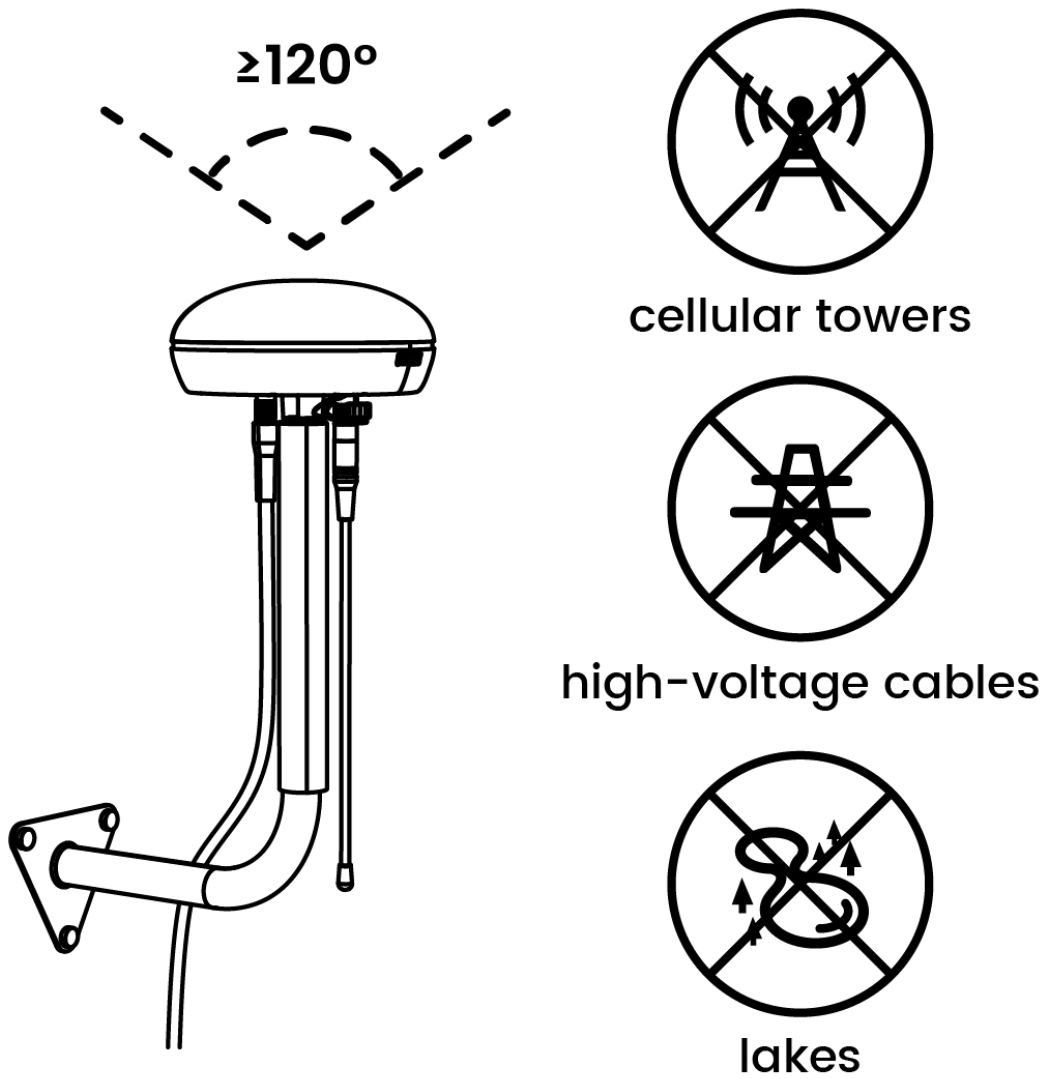
c. Folding tripod;

4.1.2 Install RTK antennas on walls/roofs

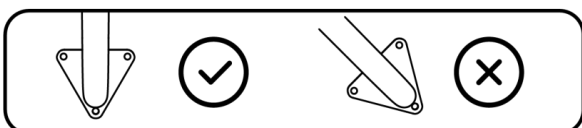
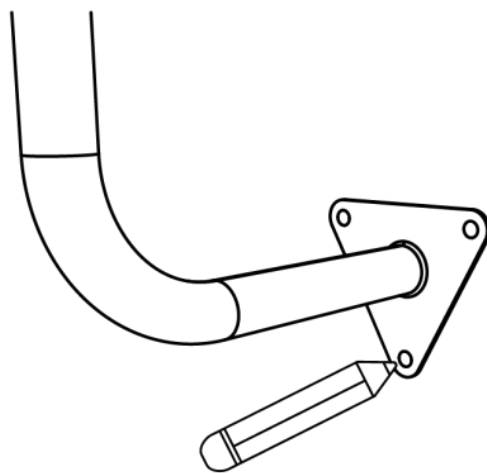
1. RTK antennas should be installed in open areas such as roofs or walls.
2. Ensure unobstructed sky within 120 ° angle.



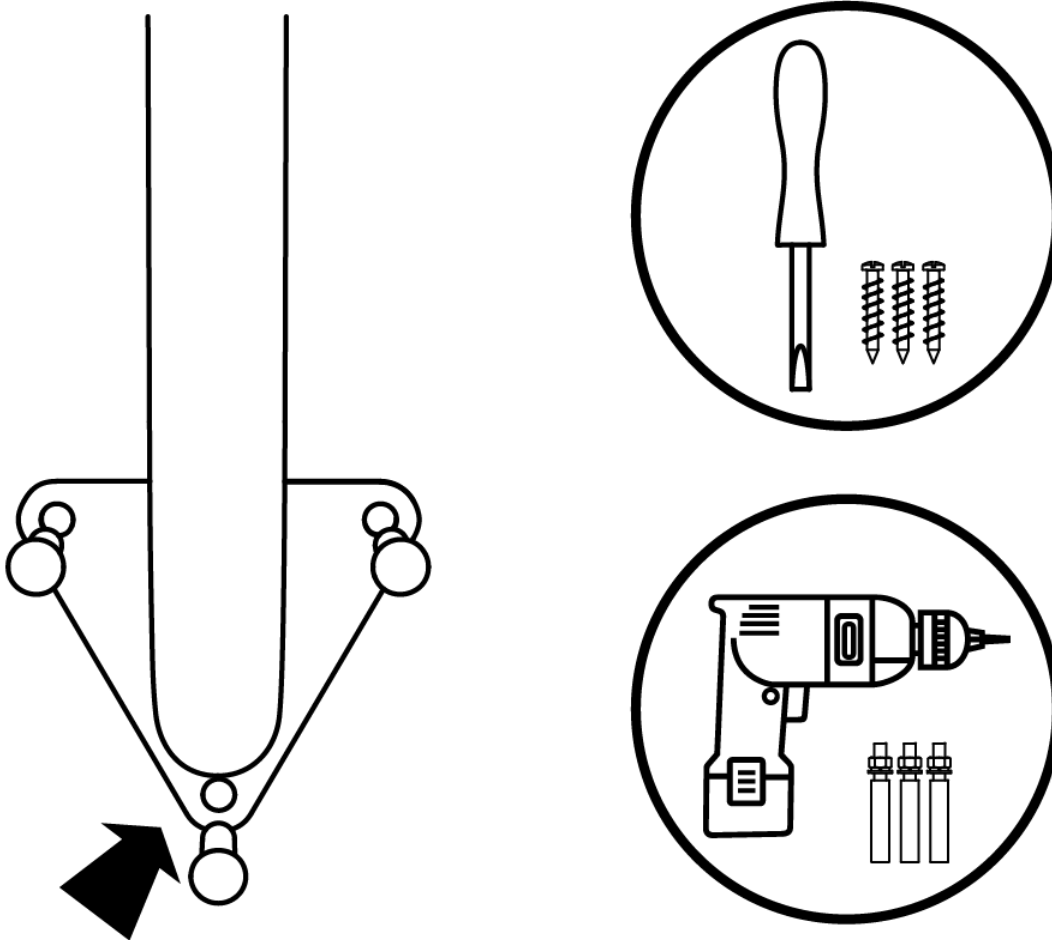
3. Install RTK antennas at least 50 meters away from water sources such as base stations, high-voltage cables, and lakes.



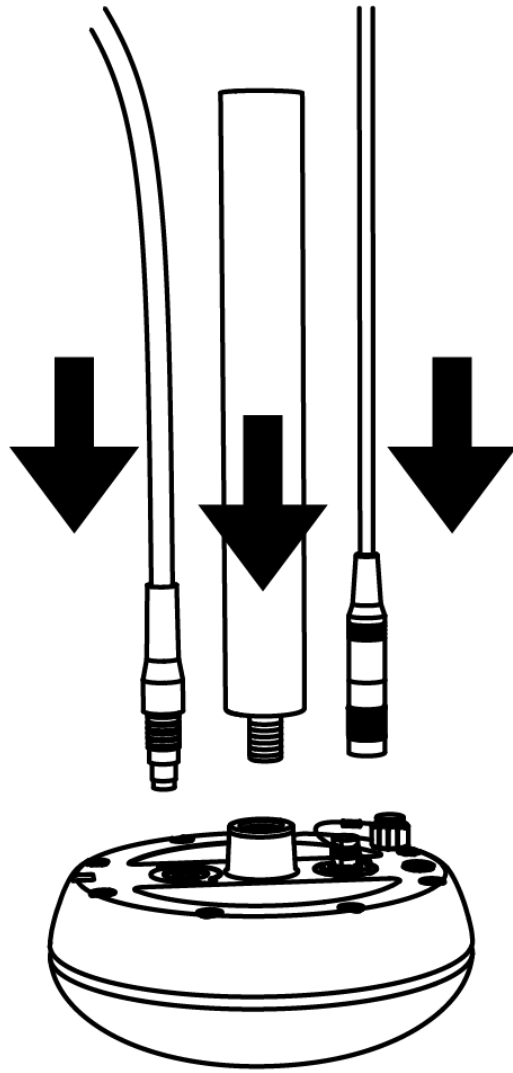
4. Mark the installation position of the curved mounting rod on the wall.
5. The mounting rod must be positioned vertically upward.



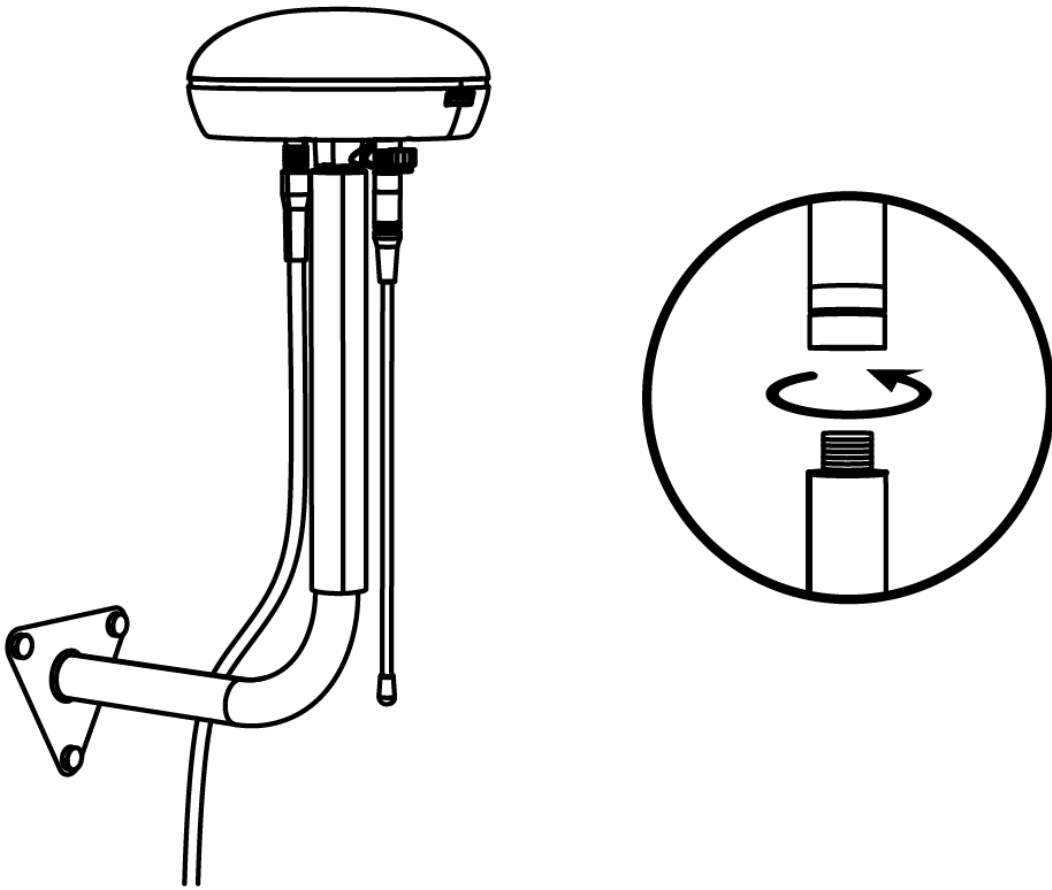
6. Select the appropriate bolts according to the wall material and drill holes at the marked positions.
7. For wooden walls: use M6 screwdrivers and screwdrivers.
For concrete walls: use M8 expansion bolts and power tools (self-contained).



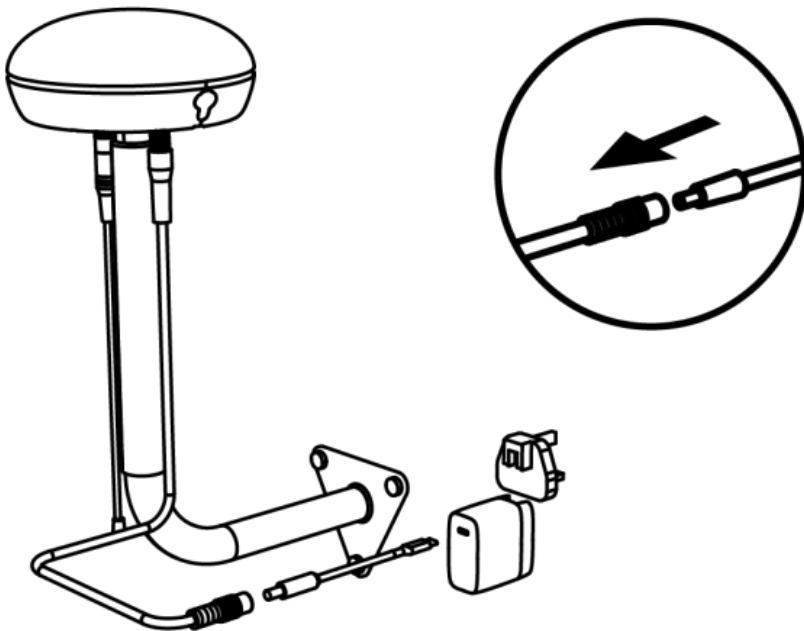
8. Install a direct hanging pole, RF antenna, and power cord (5m) on the RTK base station.



9. Secure the two mounting rods firmly.



10. Insert the DCUSB-C cable, adapter, and power adapter plug into the power outlet to activate the RTK base station.

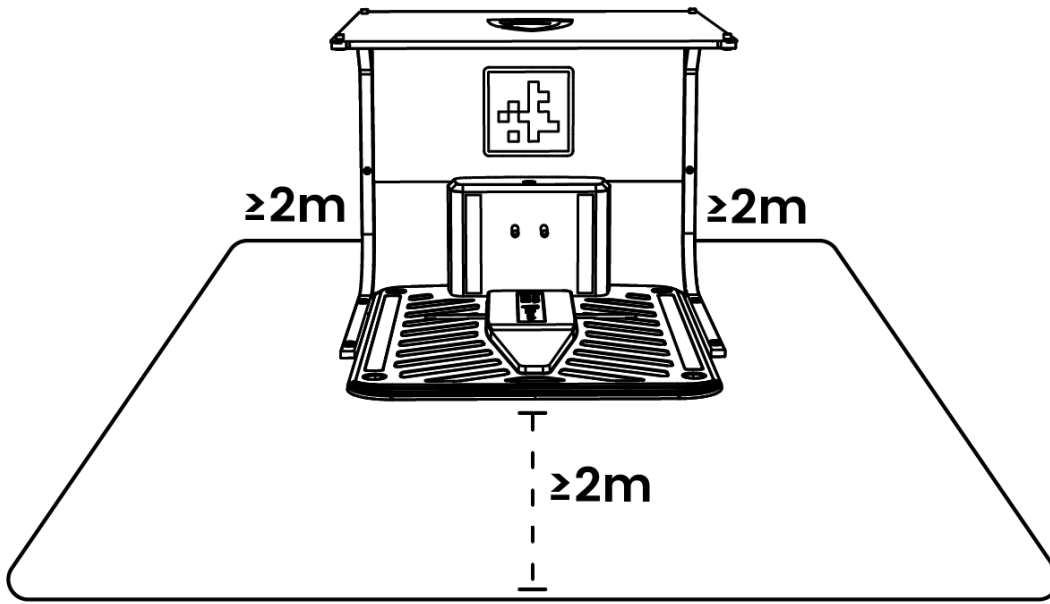


5. Install lawnmowers and charging stations

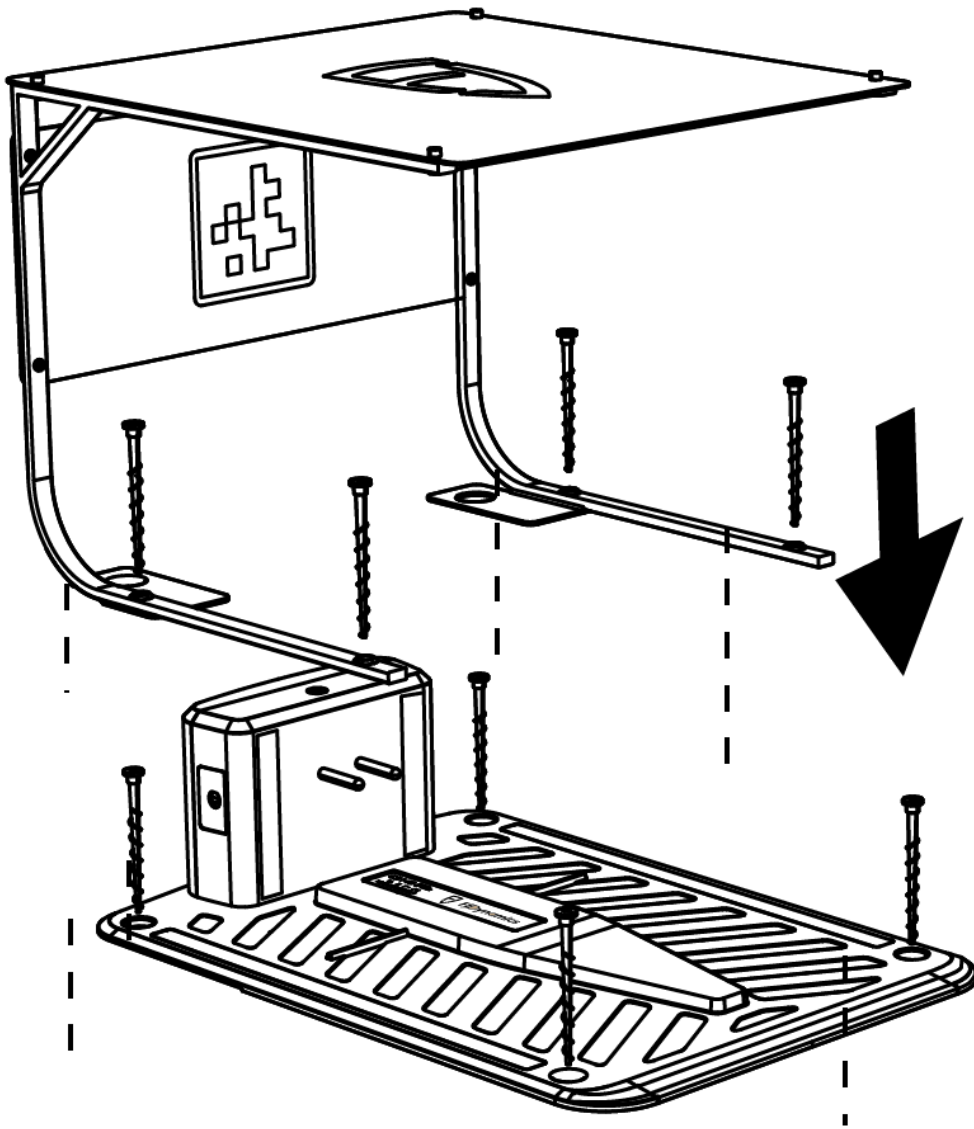
1. Choose a flat place to place the charging station. Ensure that the horizontal area at least 2 meters in front of the charging station is open and free of obstacles, without hills, slopes, depressions,

potholes, or obstacles.

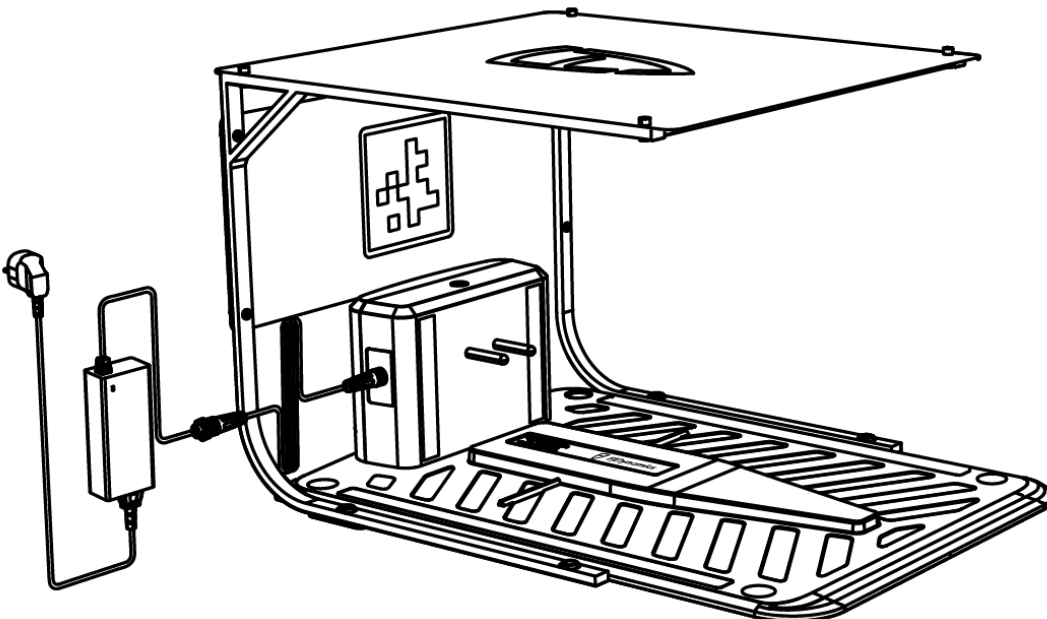
2. Confirm that the grass height below the charging station board does not exceed 5 centimeters (about 2 inches). There is no obstruction around



3. Bolt the charging station and garage to the ground.



4. Connect the power adapter, 10-meter extension cord, and power cord, and then plug them into the power outlet.



5. Docking automatic lawn mower

After the deployment of the charging pile and RTK antenna is completed, remove the lawn mowing robot and connect it to the charging pile according to the following steps.

- Press the button on the charging dock to ensure that the indicator light turns green and flashes quickly, indicating that it has entered direct charging mode.
- Plug the automatic lawn mower into the charging station and wait for it to turn on.
- After powering on the automatic lawn mower, turn on the switch of the automatic lawn mower.

6. Instructions for use

6.1 Preparation work

- Read and understand the safety instructions before use.
- Ensure that the RTK base station and charging pile are fixed.
- Make sure there is good Wi-Fi or mobile hotspot signal available nearby.
- Confirm that the Bluetooth function on your phone is enabled.

6.2 Download applications

FJDynamics is designed to work with applications, please download the application first, you can get the application iOS by scanning the QR code below or searching for "FJD Landscaping" on Android or the app store.



6.3 Register an FJDynamics account and log in

If you already have an FJDynamics account, please refer to Login Only...

6.3.1 Register and log in

After downloading the application, you can create an account according to the following instructions.

6.3.1.1 Register with email

1. Click Register Now.
2. Enter your email address.
3. Click the {Send} button, and a verification email will be sent to your email address (if not received, please check your junk email folder).
4. Enter the verification code (the valid period of the verification code is 10 minutes, please click the {Send} button again to get a new verification email).
5. Set a password (the password should be between 8 and 22 characters, with at least lowercase letters and numbers).
6. Review the User Agreement and Privacy Policy.

7. Click {Create account} to complete registration and login.

9:52 5G 82%

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REGISTER

For account security, set a login password and enter verification code. Your password must be at least 8 characters long and contain numbers, letters, and special characters.

Email address

Enter Password

Verification code Send

Create account

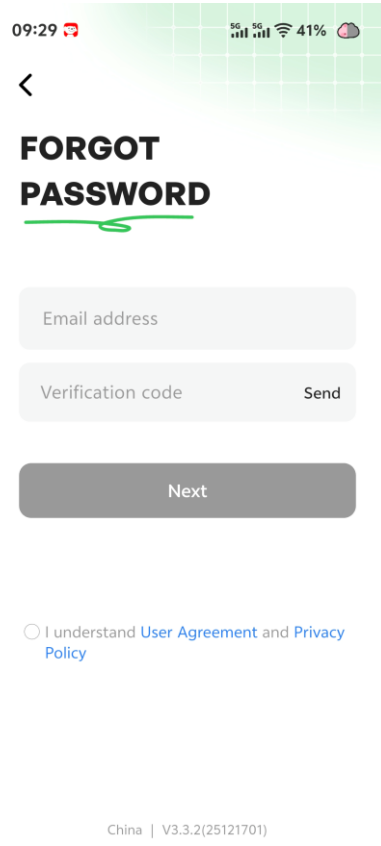
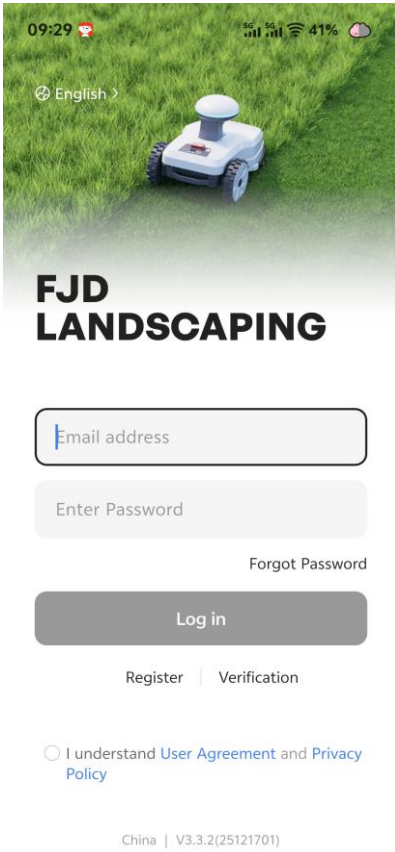
I understand [User Agreement](#) and [Privacy Policy](#)

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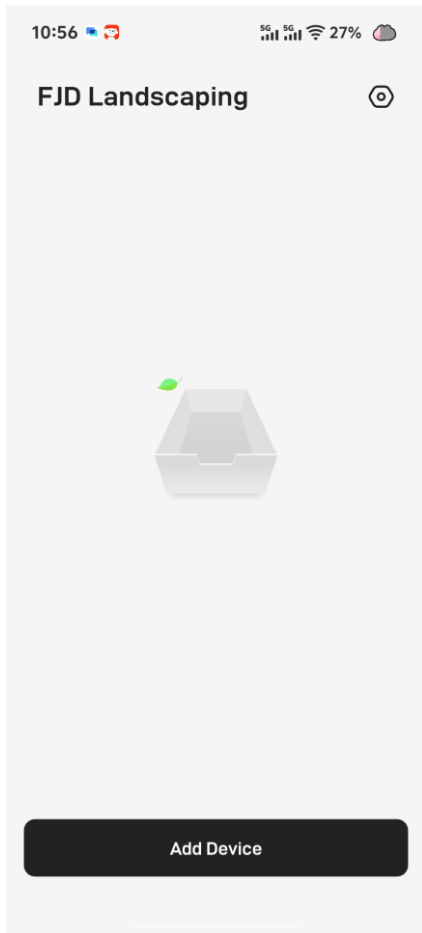
6.3.2 Log in only

You can log in directly by entering your "Email address+ password" or "Email address + verification code". After that, check the User Agreement and Privacy Policy, and click {Log in} to access the main interface of the system.

To switch the application language, please click on the upper left corner of the login page.



6.4 Facility Management

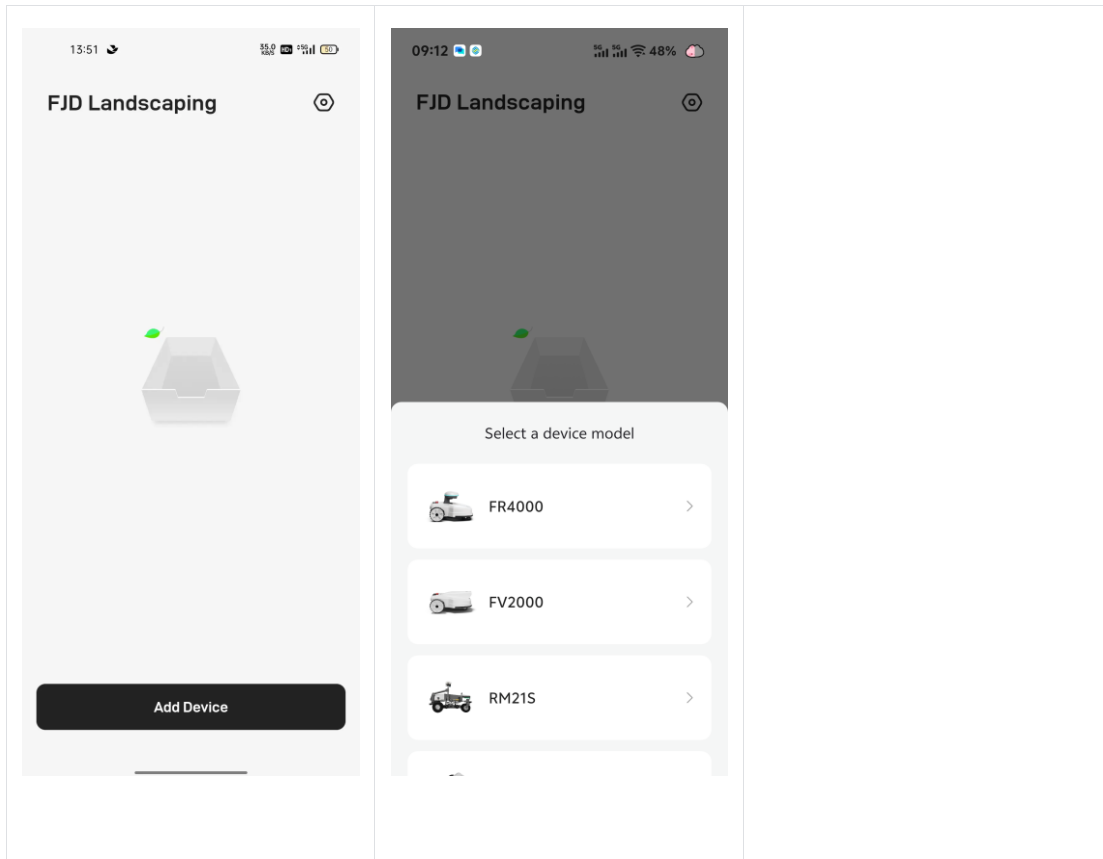


6.5 Add FR4000 lawn mowing robot



Note: To ensure that the Bluetooth function is normal, please make sure that the phone has turned on the Bluetooth function and the distance between the phone and the lawn mowing robot is less than 3m.

1. Click the {Add Device} button.
2. Select {FR4000} from the options.
3. Follow the instructions to complete the setup of the robot.



6.5.1 Connect the lawn mowing robot to the network



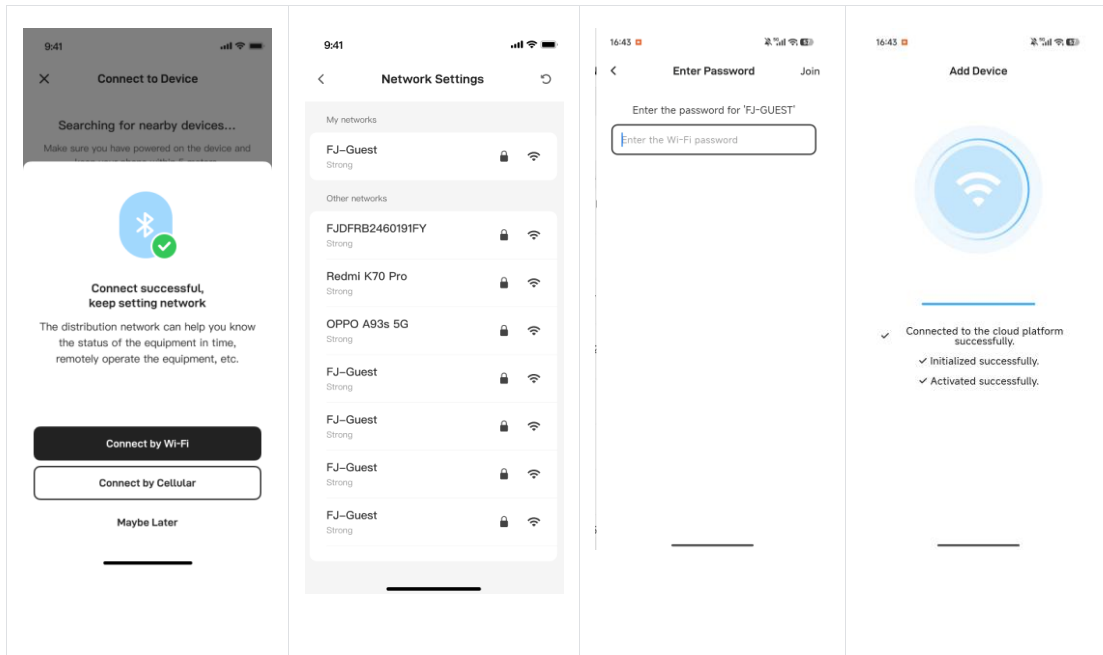
Note:

FR4000 lawn mowing robot only supports 2.4GHz Wi-Fi network.

If you are using a iOS device, the lawn mower can only connect to the Wi-Fi network that your phone is connected to. First, connect your phone to Wi-Fi, and then connect the lawn mower to the same Wi-Fi network.

When adding a device for the first time, guiding the phone to connect to the vehicle via Bluetooth will initiate the network configuration process.

- Enter or select the Wi-Fi network name.
- Enter the Wi-Fi password.
- Click {Finish}.

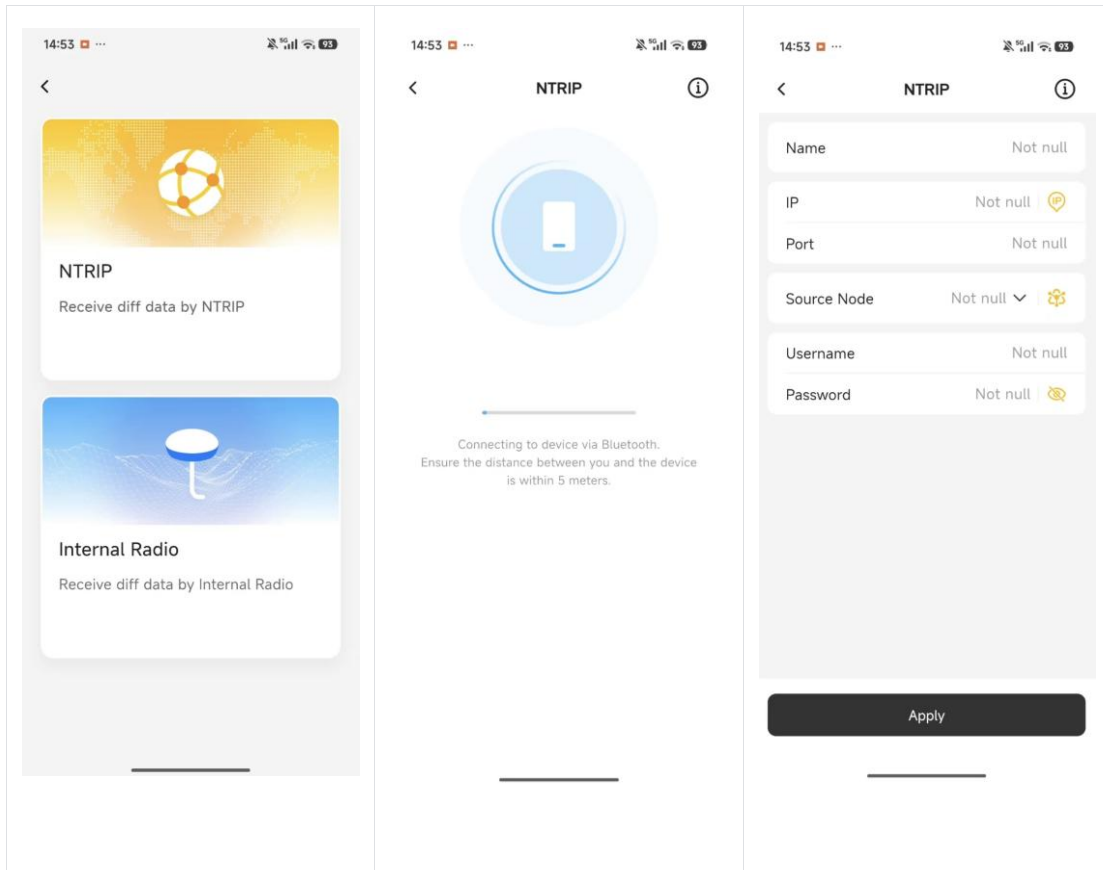


6.5.2 Deploy RTK lawn mower

The lawn mower supports two RTK base station deployment options: Ntrip (network RTK) or Internal radio (local base station).

6.5.2.1 RTK reference station deploys Ntrip network

1. Select Ntrip when deploying RTK.
2. Read the deployment instructions.
3. Enter the required Ntrip network RTK configuration.
4. Wait for the base station function deployment to complete.



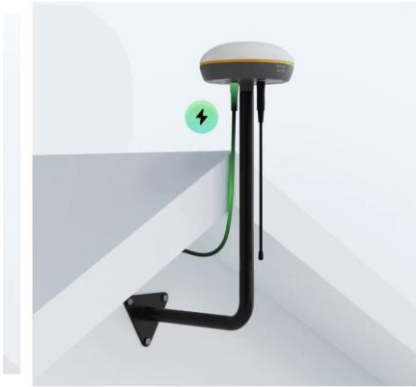
6.5.2.2 Deploy local RTK base stations

Ensure that the RTK base station is installed, fixed, and powered on, and ensure that the phone is connected to the lawn mowing robot via Bluetooth.

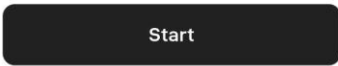
1. Select the base station site.



2. After confirming that the preparation steps have been completed, click {Start}.



Ensure the RTK base station is powered on.



-
3. Wait for the base station function deployment to complete.

Deploy RTK Station



✓ Successfully initialized

✓ Successfully located

○ Waiting for fixed solution



If you want to change the location of the base station during use, you need to redeploy the RTK base station in the {Accessory List} - {RTK Base Station} column. When redeploying the RTK base station, the existing map information will be deleted first. Please make a backup before deleting.

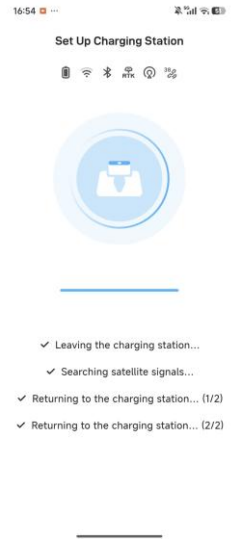
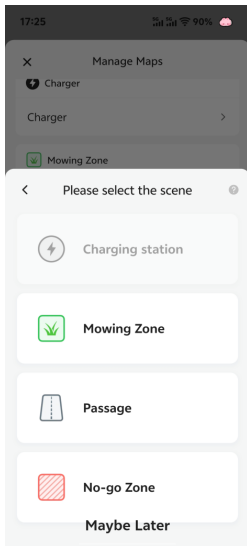
6.5.2.3 Deployment of charging stations

Ensure that the RTK base station is installed and powered on, and that the base station site configuration is complete.

Make sure your phone is connected to the automatic lawnmower via Bluetooth.

Ensure that the automatic lawn mower is located at the deployed charging station and docked.

1. Select a charging point.
2. Keep the vehicle in charge (the vehicle is detected as being in charge).
3. After confirming the completion of the preparation steps, click {Start}.
4. Wait for the charging pile function to be deployed.

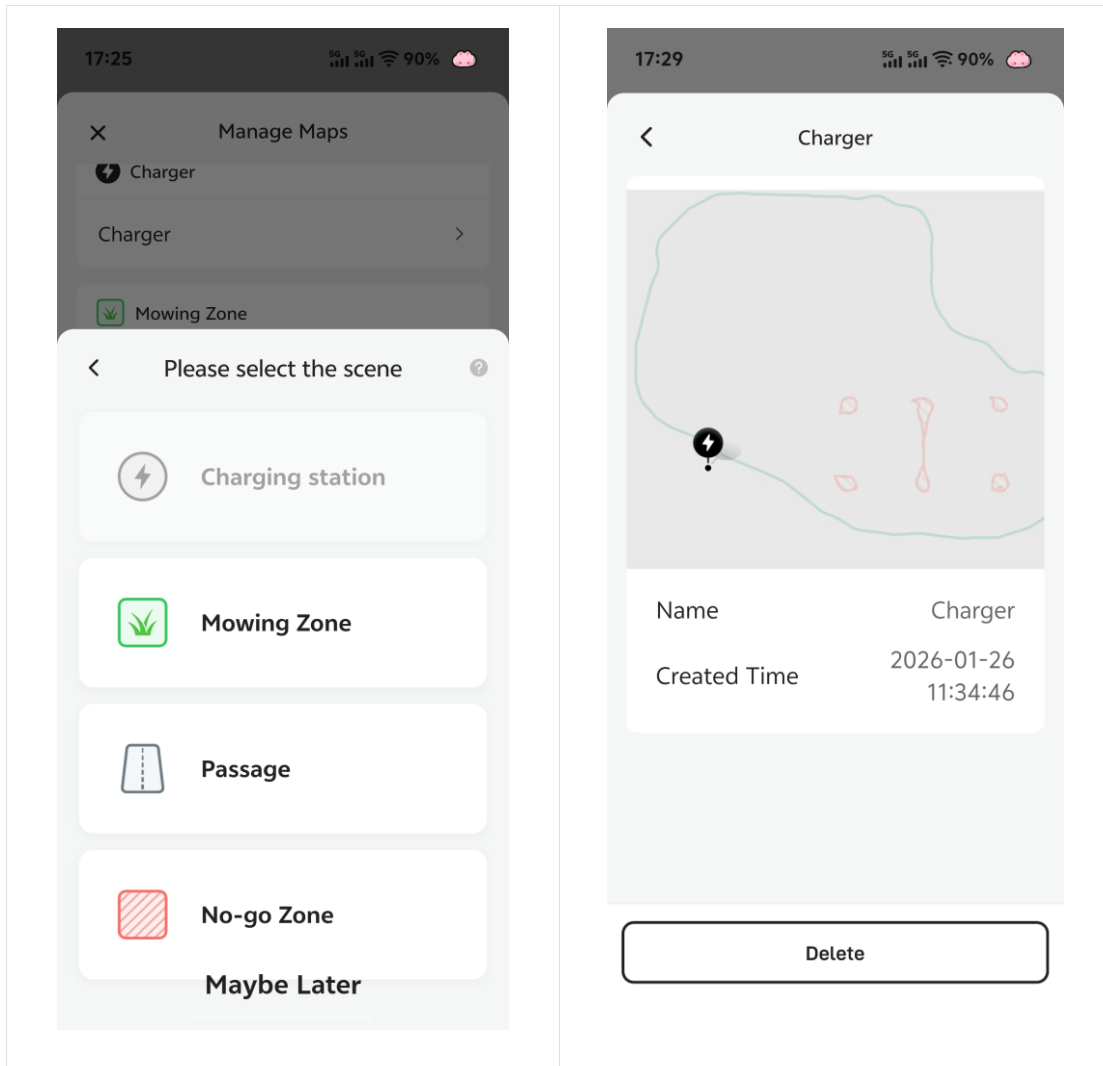


6.5.2.4 Replace charging station

- If the user's charging pile is damaged and needs to be replaced, they can choose to use the {Settings} - > {Accessory List} - > {Charging Station}, scan the QR calibration or enter SN to switch the charging pile.

6.5.2.5 Delete charging pile

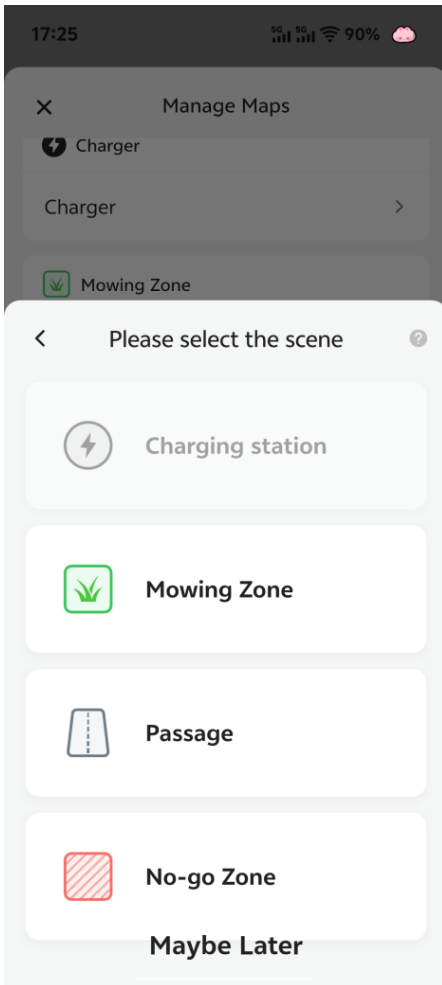
- If users need to redeploy charging, they can delete the charging pile in the map management, and then recreate the charging pile and the connecting corridor of the plot.



6.5.2.6 Map management

- Current map element type
 1. Charging station
 2. Mowing Zone
 3. Passage
 4. No-go Zone

The creation of these four elements has no order requirement and can be combined and supplemented later.



Note:

1. The plot and the pile must be connected by a connection line to form a closed loop; 2. The charging pile must have a corridor connecting at least one plot, even if the charging pile is already in the plot.

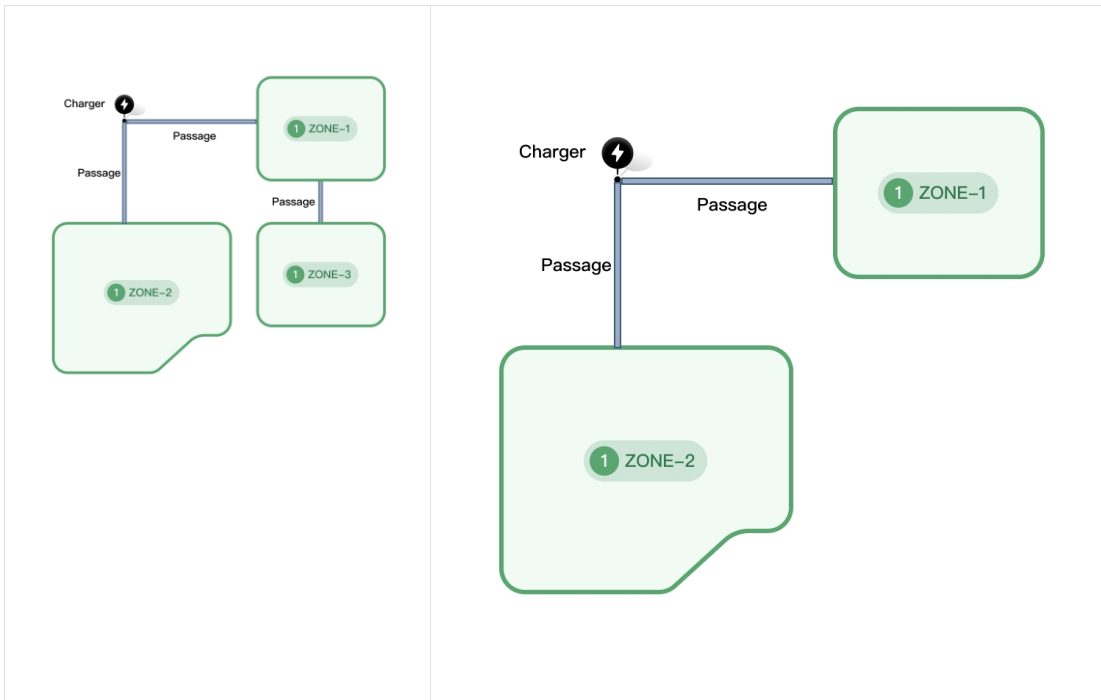
3. The order of creating a full-element map is: create a charging station - create a plot - create a connection line - create a forbidden area.

- **Tasks for multiple plots.**

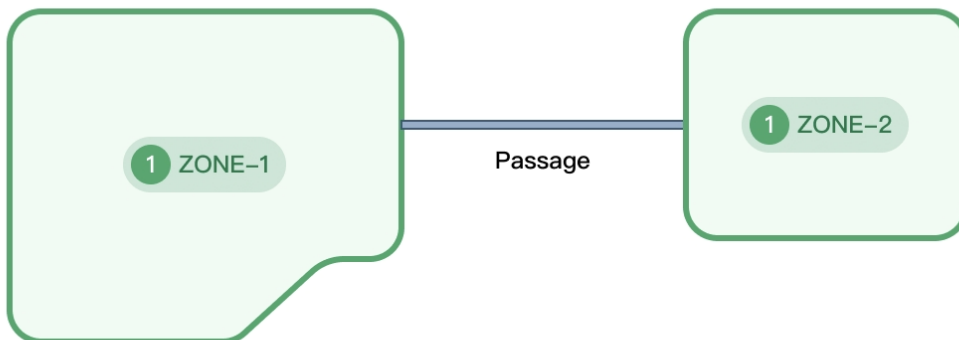
For example:

Charging pile - Unicom line 1 - Plot 1 - Unicom line 3 - Plot 3 - Unicom line 2 - Plot 2

Charging pile - Unicom line 1 - Plot 1 - Unicom line 2 - Plot 2



- **Single plot task.** This plot can be without charging piles and connecting lines, but the car must be started from within the plot. After the task is completed, it will return to the starting point of the plot. It will not return to the charging pile

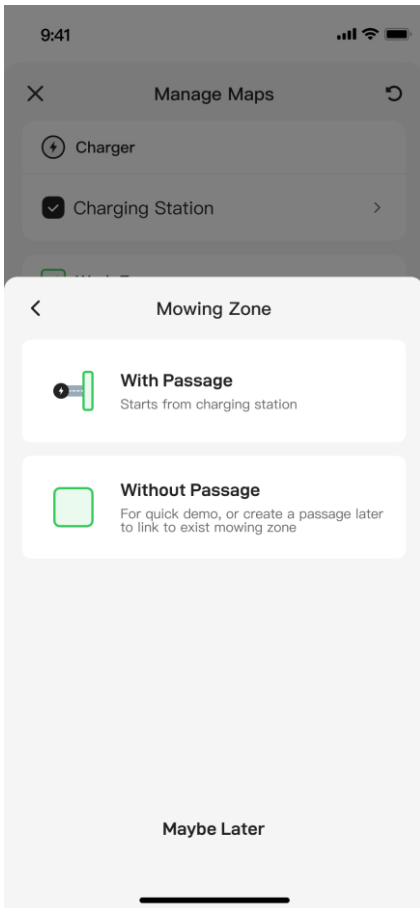


- **What if the report path planning fails?**
 - Check if there are isolated island plots
 - Check if the charging pile has created a corridor and is connected to one of the plots
 - Have all plots been connected to charging through corridors to form a complete path?

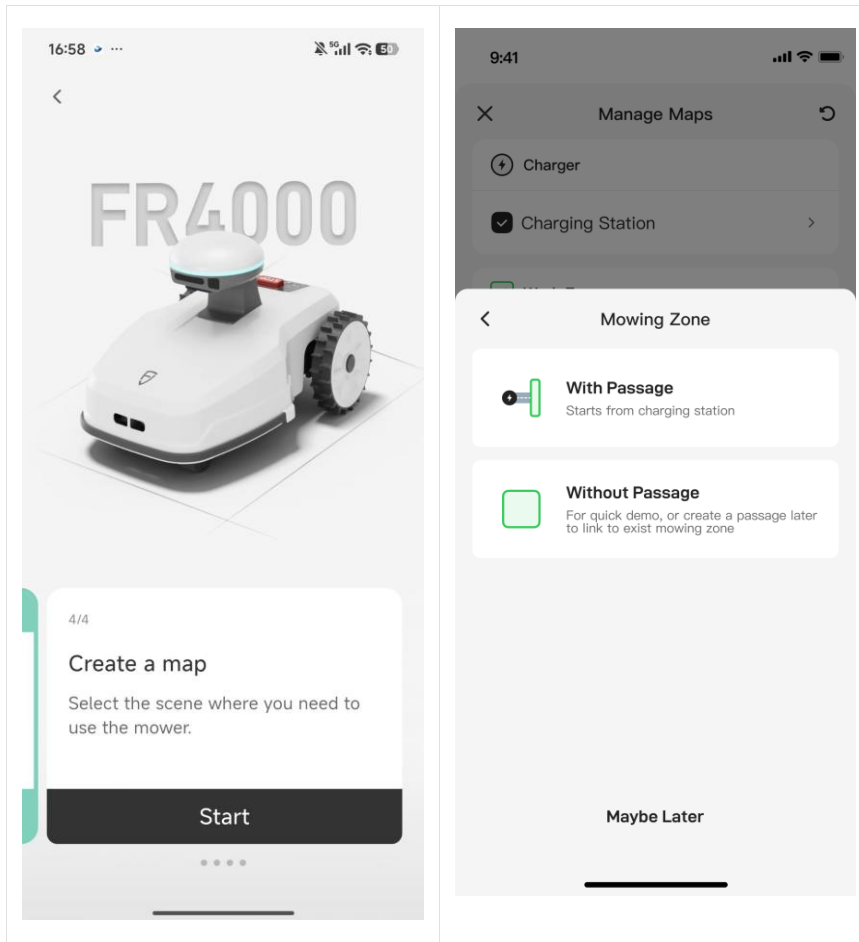
6.5.2.7 Build plot work area

1. Before creating a map, there are a few things to note:
 - Before creating a map, clean up debris, piles of fallen leaves, toys, wires, stones, and other obstacles on the lawn. Make sure there are no children or animals on the lawn.
 - Ensure that the automatic lawn mower is in good condition and its positioning function is working properly.
 - When the automatic lawn mower moves along walls, fences, ditches, and other obstacles, it is still recommended to leave a distance of 15 centimeters.
 - During the map creation process, please follow the lawn mowing robot and keep a distance of less than 3 meters to ensure good Bluetooth connection and timely handling of on-site situations
 - Draw a line along the edge of the lawn.
 - Do not create boundaries at the edges of pools and lakes, especially along slopes of water

2. There are two types of plots
 - a. B. Zone with passage
 - i. This plot comes out of the charging pile, creates a connection line, and goes to another plot
 - ii. One process completes the establishment of two elements: connecting lines and plots
 - b. A. Zone without passage
 - i. This plot is an independent plot without corridors, and it needs to be connected to charging piles or other plots by adding Unicom lines in the future



3. How to create zones with passage
 - a. Select mowing zone with passage

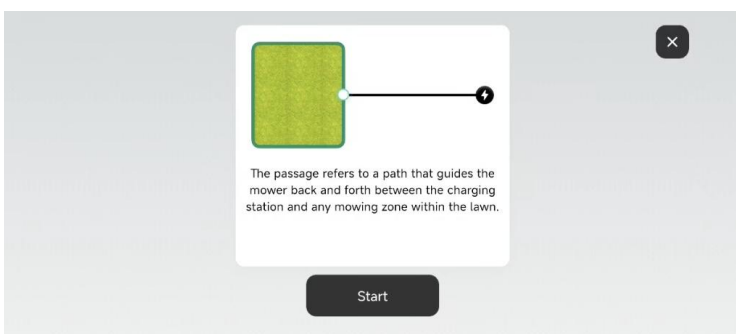


2. The automatic lawn mower will automatically leave the charging station.

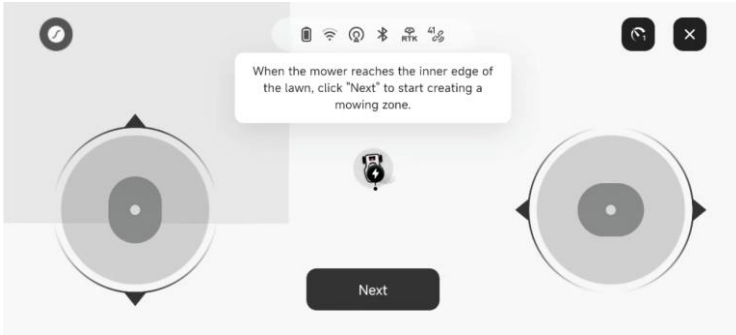


3. After the robot lawnmower stops, you can establish a channel through the application.

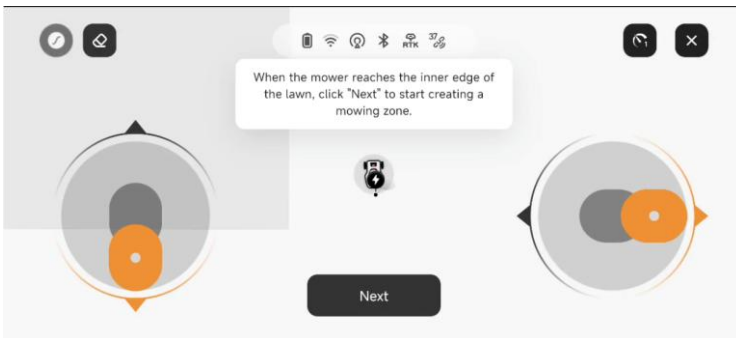
- Channel refers to the path that the automatic lawn mower takes from the charging station to the work area. In actual operation, this path will be followed to ensure that it is a drivable path.



- Click {Start} and use the joystick to remotely control the lawn mowing robot to the edge of the expected work area.



- Click {Next} to save the channel and continue building the mowing area.

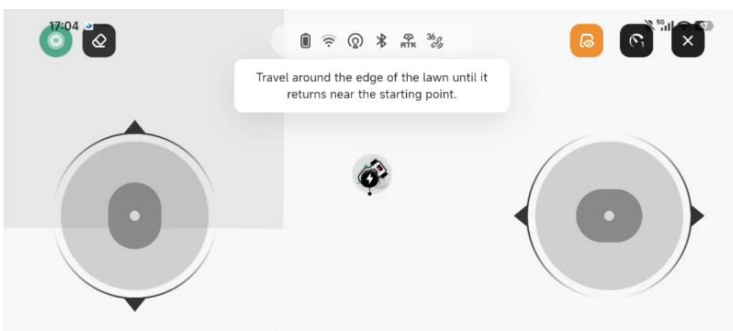


4. After saving the path, the mowing area can be established through the application.

- Click the {Start} button and then use the joystick to remotely control the robotic lawn mower along the desired lawn edge to draw the lawn boundary.



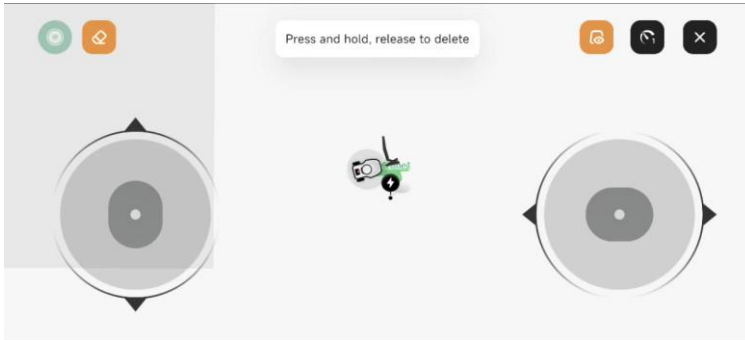
- The solid line represents the boundary you drew, while the dashed line will help guide you back to the starting point.



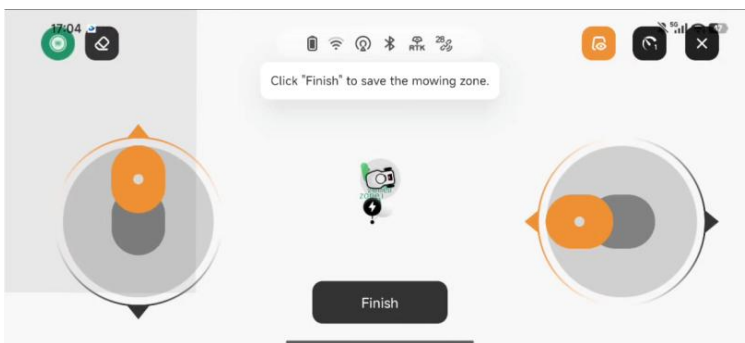
- The mowing area will not be created until you control the mowing robot to return to the starting

point and click {Finish}.

- If necessary, click the erase icon, and the mowing robot will move back along the drawn path, erasing and redrawing the boundaries of the mowing area.



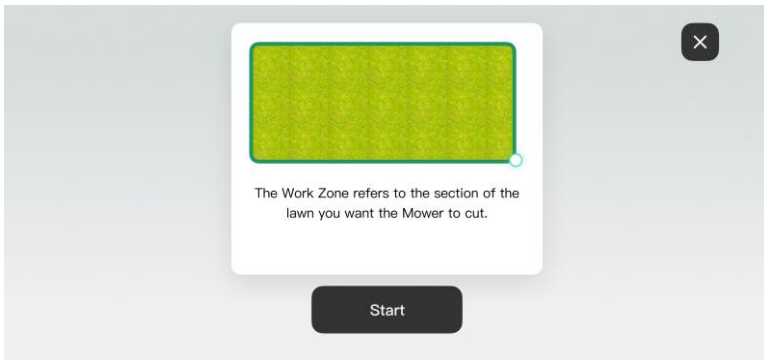
- Control the mowing robot to return to the starting point, and then click the {Finish} button to save the work area.



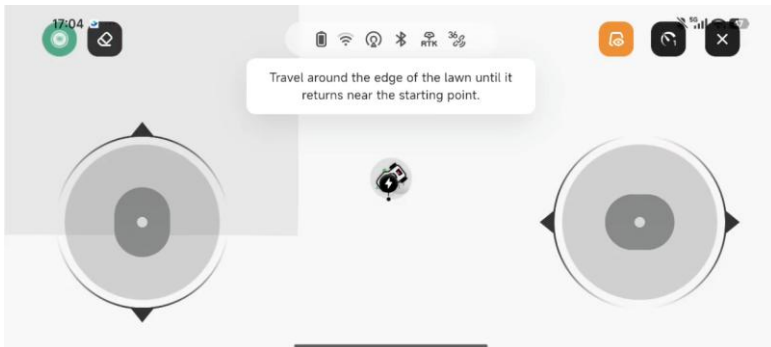
- Name the workspace.
4. How to create a zone without passage
 - a. Choice without passage
 - b. The automatic lawn mower will automatically leave the charging station.



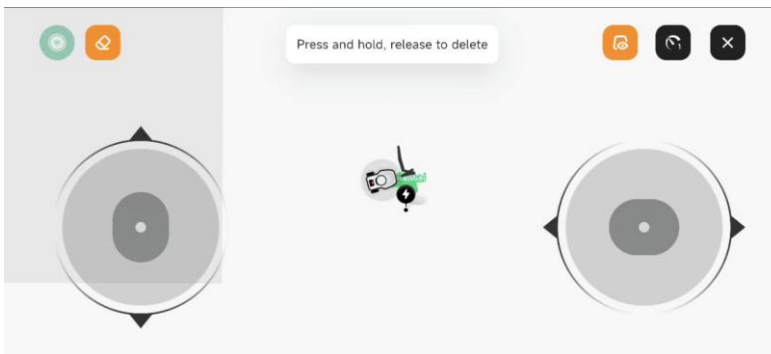
3. Establish mowing areas through the application.
 - Click the {Start} button and then use the joystick to remotely control the robotic lawn mower along the desired lawn edge to draw the lawn boundary.



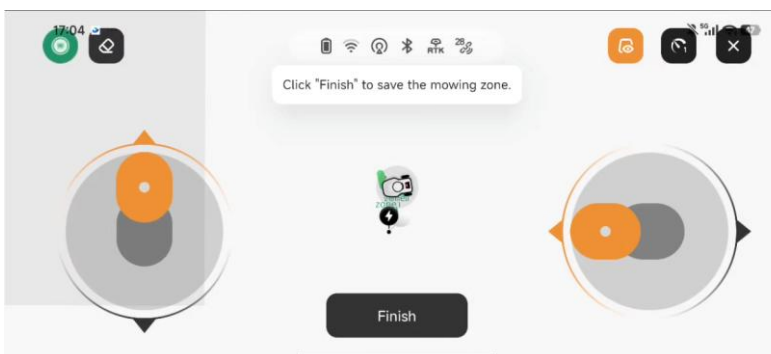
- The solid line represents the boundary you drew, while the dashed line will help guide you back to the starting point.



- The mowing area will not be created until you control the mowing robot to return to the starting point and click {Finish}.
- If necessary, click the erase icon, and the mowing robot will move back along the drawn path, erasing and redrawing the boundaries of the mowing area.



- Control the mowing robot to return to the starting point, and then click the {Finish} button to save the work area.



- Name the workspace.

6.5.2.8 Build forbidden area

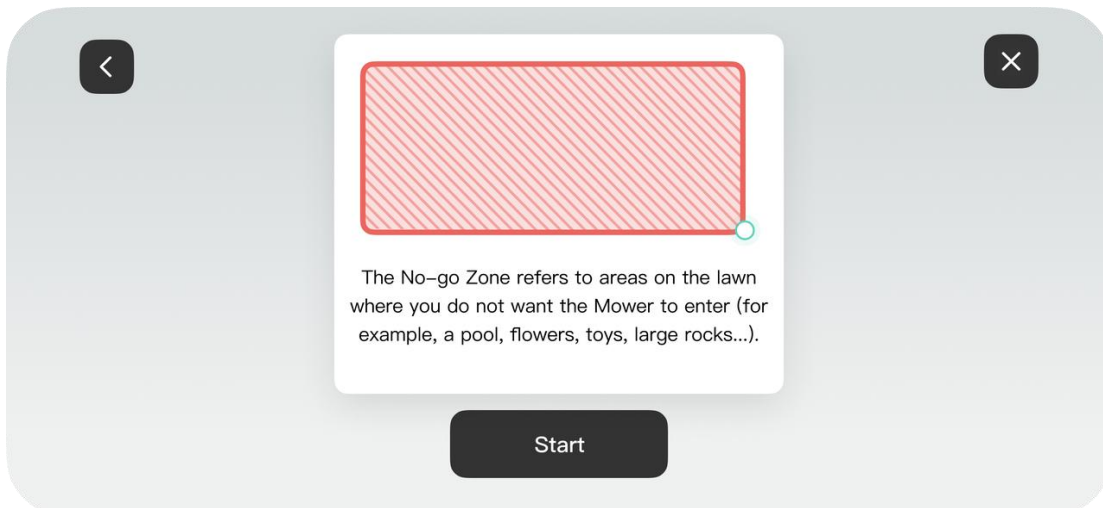
Prohibited areas include areas such as swimming pools, flower beds, trees, roots, ditches, and any other obstacles on the lawn. Automatic lawn mowers will avoid mowing in these designated areas.

Suggested areas for creating forbidden zones:

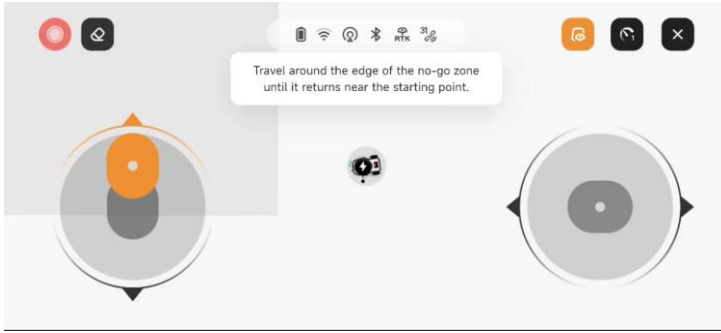
1. Obstacles with a height lower than the front of the car
2. Obstacles with a diameter greater than 1 meter
3. Precious flowers, plants and trees
4. Thin columns with a diameter of less than 10cm
5. Fine and soft gravel area
6. Trampoline U-shaped bracket

Steps to create:

1. Ensure that the automatic lawn mower is powered on, located at the charging station, in normal working condition, with a fixed solution, the emergency stop button is turned off, and the battery level is higher than 50%.
2. Click {New} on the map management page.
 - Click {No-go Zone} to remotely control the lawn mowing robot to draw the forbidden area through the application.
 - Use the application to guide the automatic lawnmower to the edge of the designated forbidden area.
 - Click the {Start} button, then use the joystick to remotely control the lawn mowing robot to draw the boundary of the restricted area.

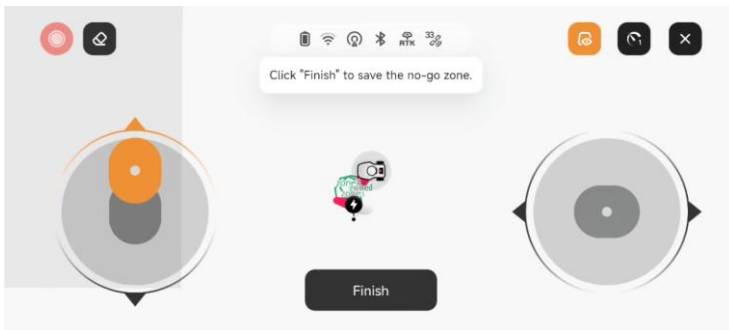


3. The solid line represents the boundary you drew, while the dashed line will help guide you back to the starting point.



Only after controlling the lawn mowing robot back to the starting point can the forbidden area be created.

4. If necessary, click the erase icon, and the lawn mower robot will return along the drawing path to erase the backtracked forbidden area boundary.
5. Control the mowing robot to return to the starting point, then click the {Finish} button to save the forbidden area

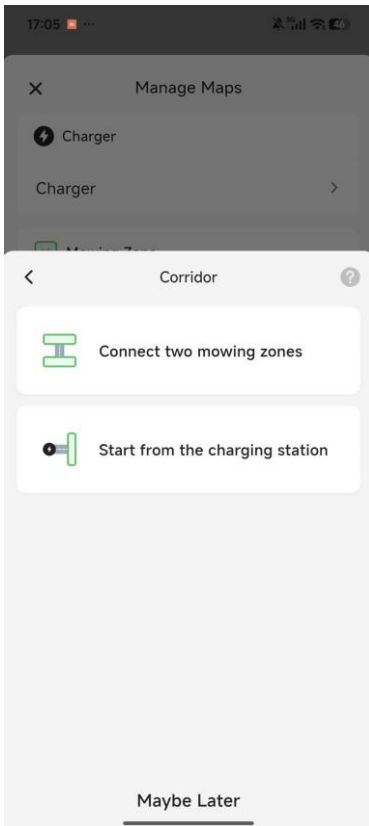


6.5.2.9 Build a connection line

A. Connecting plots and connecting lines between plots

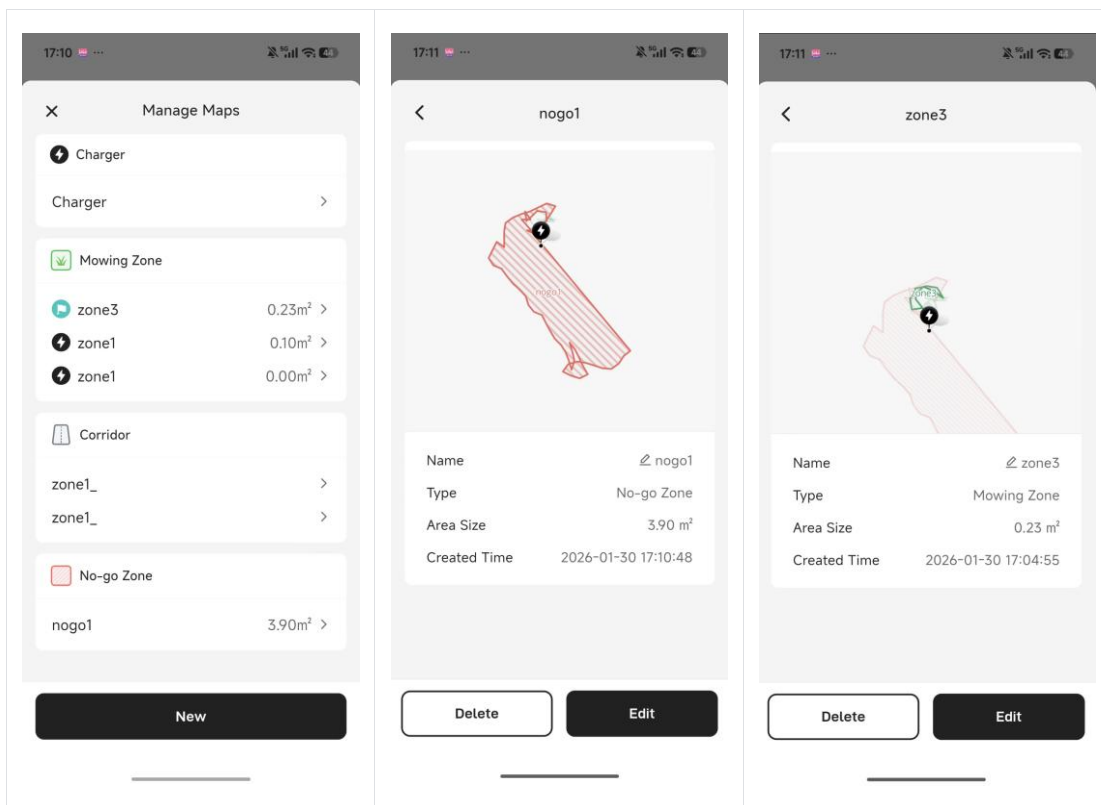
B. Connect the charging pile and the land with a connecting line, which needs to start from the charging pile to ensure that the car starts charging

Note: The starting and ending points of the China Unicom line must be deeper than 0.5m into the plot to complete the selection of the starting and ending points



6.5.2.10 Delete map

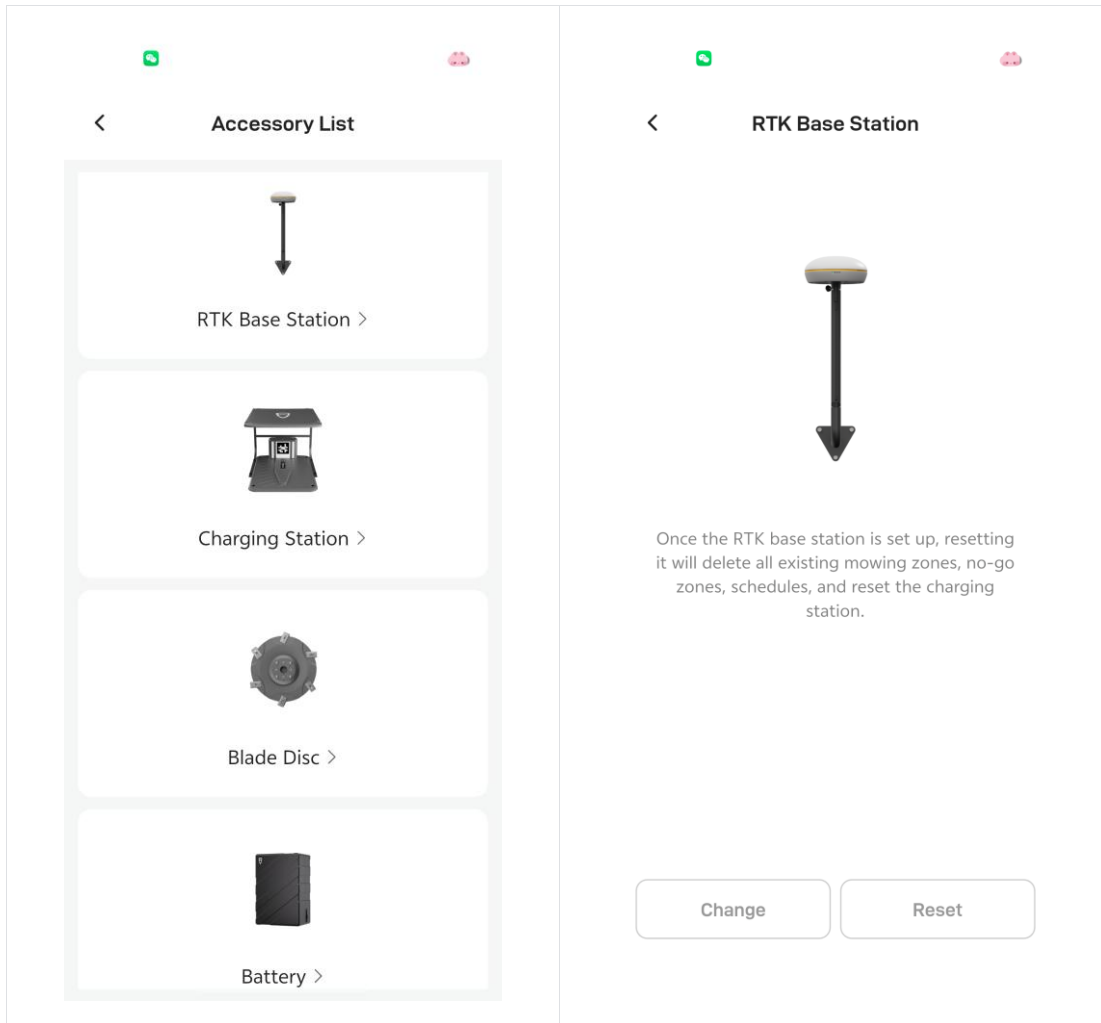
- To delete a map: On the Map Management page, click the desired work area, forbidden area, or charging station, and then click {Delete} and {OK}.
- Deleting the charging station will delete the corridor connected to the charging station.



6.5.2.11 Reset RTK base station

After the map is drawn, do not move the RTK antenna, otherwise it may cause deviations between the actual work area and the drawn work area.

If it is indeed necessary to relocate the RTK antenna, after relocation, delete and rebuild the base station, and then redraw all plot data.



6.5.2.12 Stop and go: quick demo

1. Connected network
2. Connect ntrip
3. Create mowing zone without passage
4. Start the task

6.5.3 Create mowing schedule

- Through the scheduled task function, you can set a task schedule, and the lawn mowing robot will automatically complete the work according to your task settings.

Note:

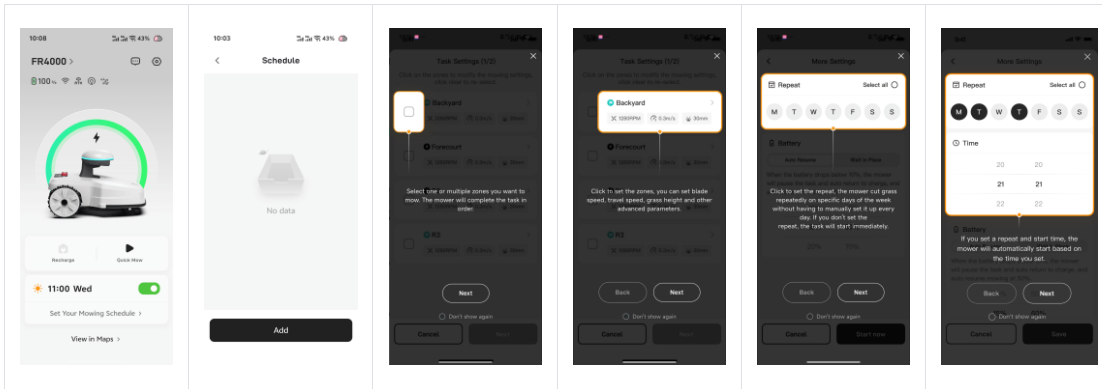
The mowing plan can only be set after the map is drawn.

Modifications to scheduled tasks during automatic lawnmower execution will not affect tasks that have already been executed.

The mowing schedule is divided into timed job table and prohibited job schedule

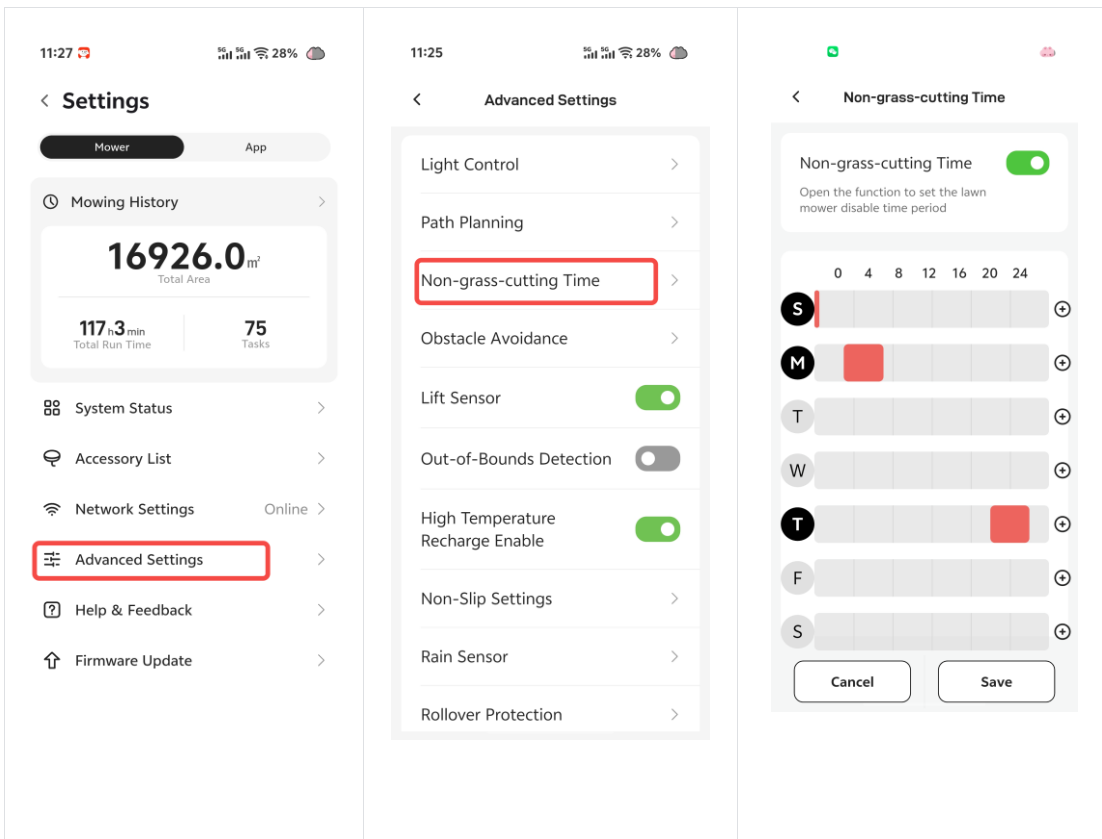
6.5.3.1 Timed work schedule

Set parameters such as daily working hours and job plots



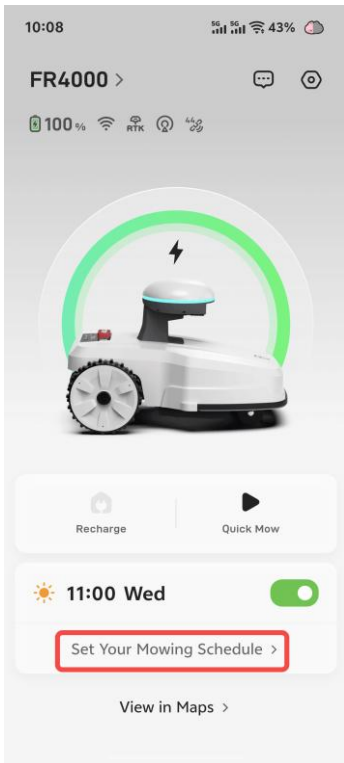
6.5.3.2 Prohibited work schedule

Set a time period during which work is prohibited every day. During this set time, the machine will not work, enter a waiting state, and continue unfinished tasks when the prohibited time ends



6.5.3.3 Modify scheduled tasks

1. Click {Set Your Mowing Schedule} on the product homepage.



2. Click on the scheduled task item you want to modify.

9:41



Schedule



08:00



Backyard, Forecourt

Sun, Tue, Thu



02:00



Backyard, Forecourt

Sun, Tue, Thu



08:00



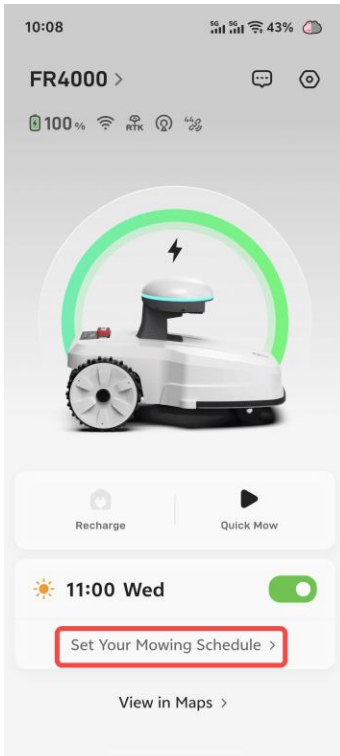
Backyard, Forecourt

Sun, Tue, Thu

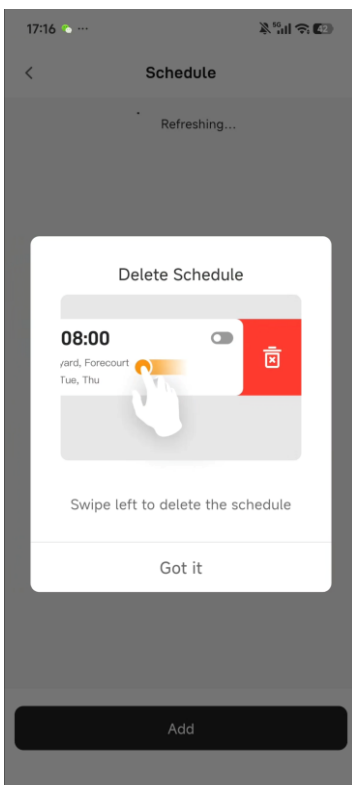
3. Modify the start time, repetition frequency, work area, plot mowing configuration, and other parameters of the scheduled task.
4. Click the {Save} button to save the scheduled task.

6.5.3.4 Delete scheduled tasks

1. Click {Set Your Mowing Schedule} on the product homepage.



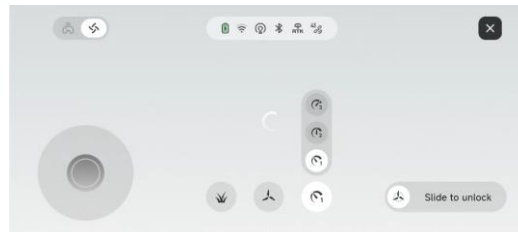
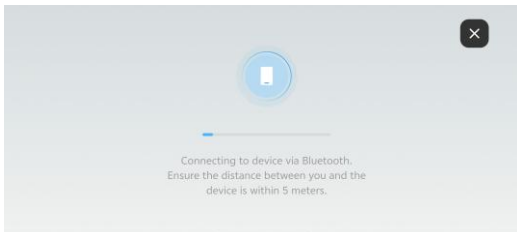
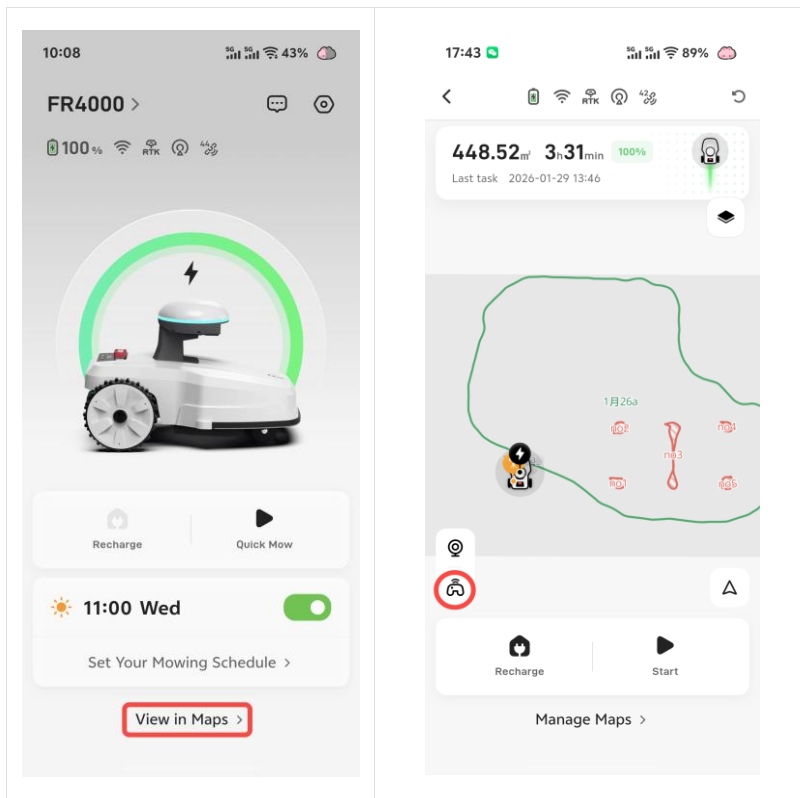
2. Swipe left to delete the scheduled task item you want to delete



3. Click the delete icon that appears and confirm.

6.5.4 Manual remote control

1. Please ensure that your phone's Bluetooth function is turned on and the distance between your phone and the smart lawnmower is less than 3 meters.
2. Make sure the automatic lawnmower is working properly and the emergency stop switch is turned off.
3. Click {View in Maps} on the product feature homepage, then click the remote control icon
4. The application will activate the Bluetooth connection with the robot lawn mower. After the connection is successful, it will enter the manual mode page.
5. Operate the forward/backward, left/right joysticks to remotely control the robotic lawnmower.
6. Tap the speed icon to adjust the driving speed in remote manual mode.



6.5.5 Mowing operation

• Preparation work

Ensure that the automatic lawn mower has a charging station in the work area and has sufficient power.

If any accidents occur during the mowing process, please press the emergency stop button on the automatic lawn mower. The automatic lawn mower will prioritize executing the instructions of the

emergency stop button, pause the task, and stop cutting.

It is not recommended to mow the lawn in the same area more than once a day, as this may damage your lawn.

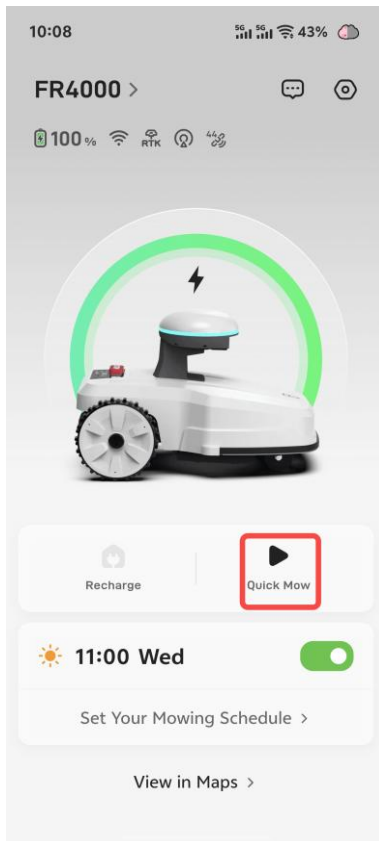
The recommended stubble height for each mowing is about 2/3 of the current grass height. If the grass height exceeds 60mm (2 inches), it is recommended to set the minimum stubble height to 40mm (1.6 inches).

- **Activate one-click operation through the application**

Note:

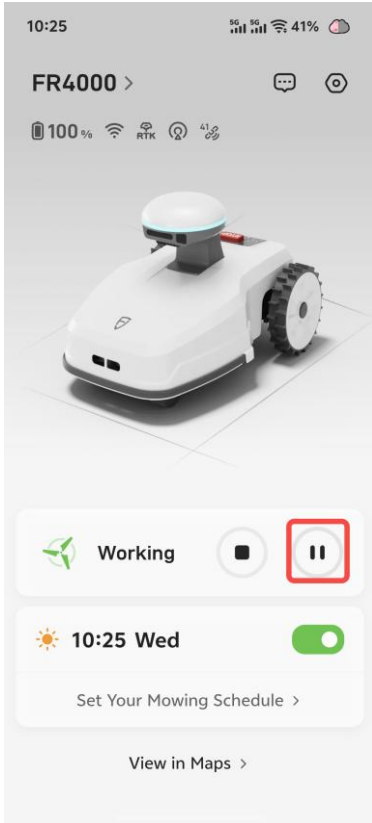
When activated through the application, the robot lawn mower will perform mowing operations on all mapped plots in the order of mapping.

1. On the homepage of the robot lawnmower application, press and hold the start button "Quick Mow".
2. The automatic lawn mower will perform one-click operation.



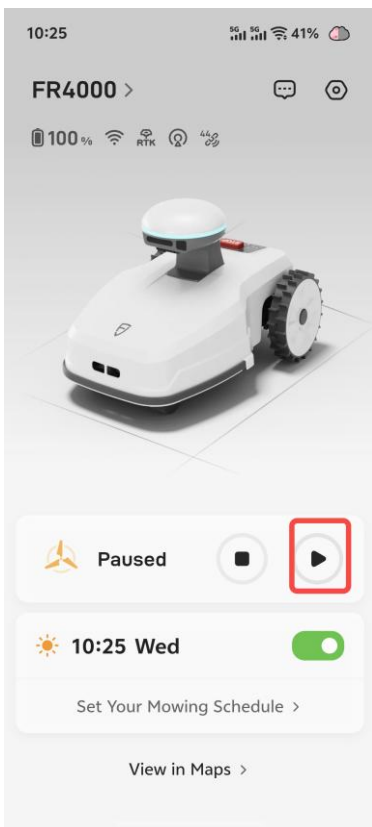
- **Suspend operation**

Press the emergency Stop button on the top control panel of the lawnmower, or click the pause icon on the APP



- **Recovery operation**

Press the Mowing button and the Confirm button on the top control panel of the lawn mower, or click the continue icon on the APP



Notes:

During the mowing process, if the battery is too low (below 10%), the smart lawn mower will

automatically stop mowing and return to charging. When the battery reaches the mowing recovery threshold (default 90%), the smart lawn mower will automatically return to the last mowing point and resume mowing operations.

- **Set scheduled tasks**

1. Set the schedule through the APP.
2. The automatic lawn mower will automatically start the job according to your scheduled task settings.

6.5.6 Return to charging pile

6.5.6.1 Automatic recharge

When the automatic lawn mower completes the mowing task normally or triggers the recovery mowing condition, it will attempt to return to the charging station for charging.

To trigger the charging function, the automatic lawn mower needs to be in a designated working area and not in any prohibited areas.

6.5.6.2 Manual recharge

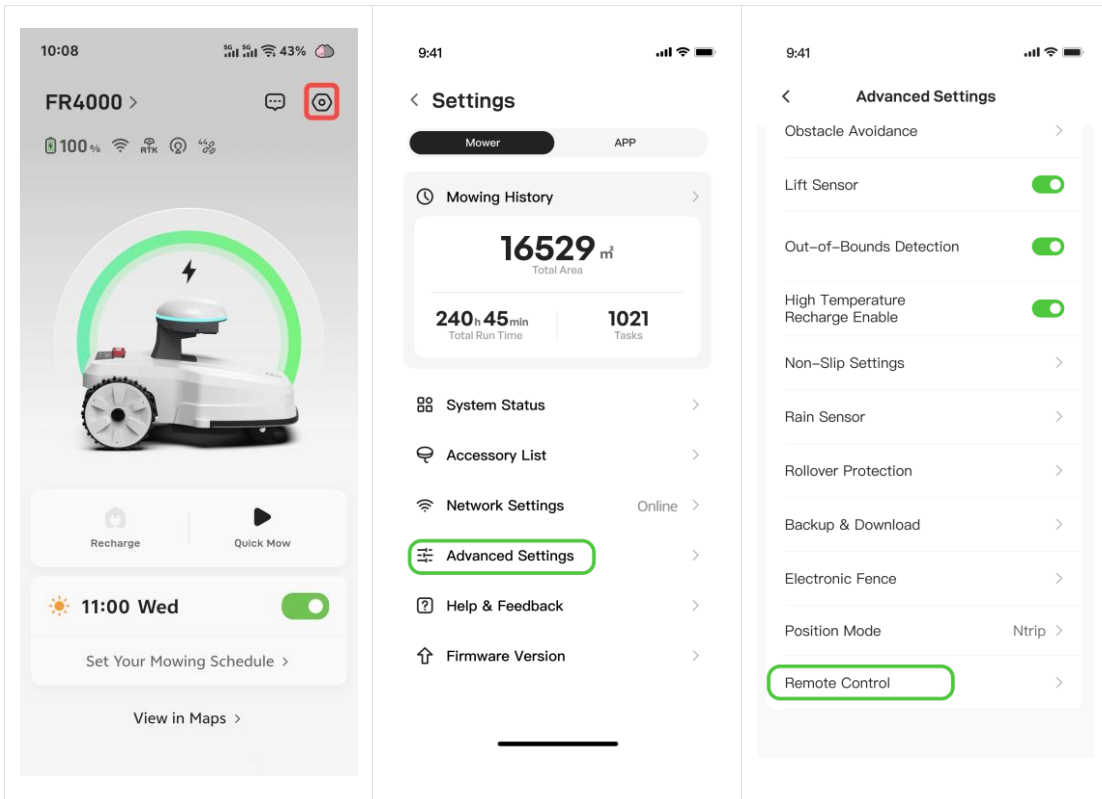
By issuing instructions through the APP, the smart lawn mower can return to the charging station.

1. Click on {Recharge} on the homepage of the lawn mowing robot app.
2. Click the {OK} button.
3. The lawn mowing robot will activate the recharge function.

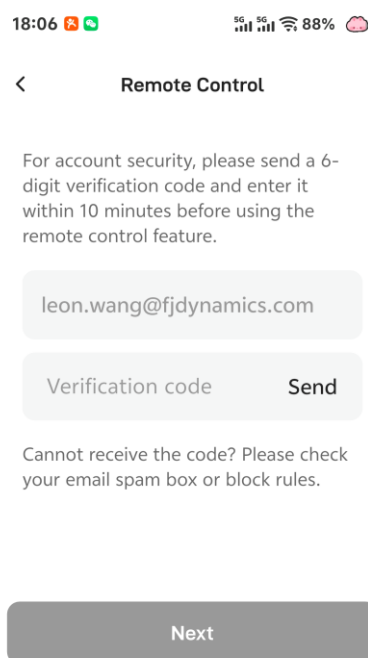
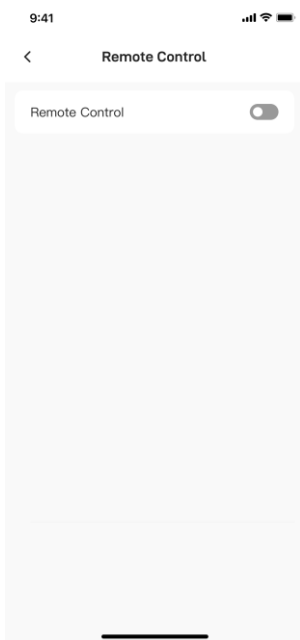
6.5.7 Advanced settings

[Remote control]

Step 1: [Settings] - [Advanced Settings] - [Remote Control]



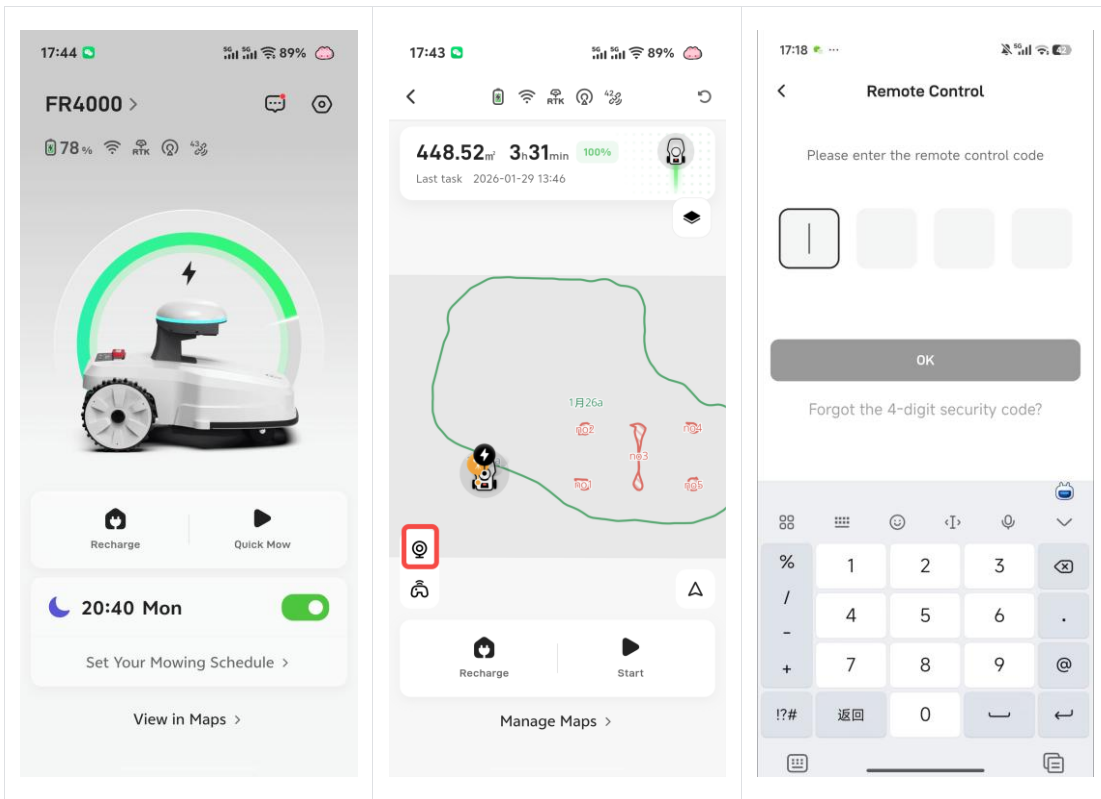
Step 2: Activate the remote control selection → Complete security verification with your email address
→Enter check code



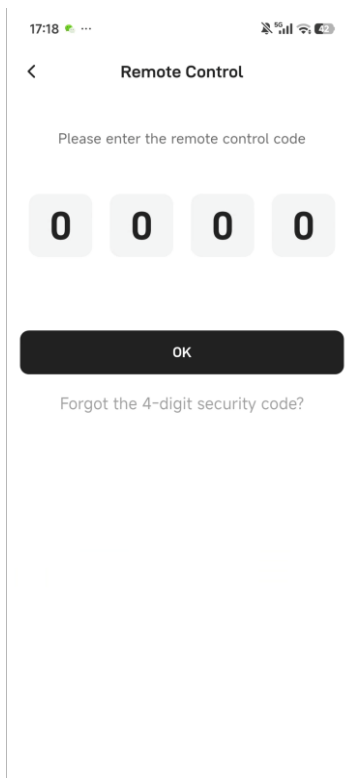
Step 3: Complete setting up your four-digit remote control code.

Please return to the homepage and click {View in Maps} at the bottom.

Click the {Camera} icon in the lower left corner



Step 4: Enter a four-digit remote control code



Step 5: Then you can use this feature to monitor the lawnmower in real time.

- You can click on the "map" icon to view the location of the lawnmower in real time.

- You can view the status at the top of the screen.
- You can choose to stop the lawnmower by clicking the [Stop] button in the upper right corner.
- You can also manually control the lawn mower by clicking the joystick icon in the upper right corner.



[Obstacle sensing]

- In specific work areas or scenarios, you can adjust the sensitivity of the obstacle avoidance function to achieve smoother operation. Users can set the distance from the boundary (0.1-1.5 meters) to turn off the visual camera and only avoid obstacles through the basic collision bumper when cutting edges.
- Corridor obstacle avoidance switch, you can choose to turn on or off the corridor obstacle

[Lighting Control]

Users can freely turn off the light strip and set the activation time period.

[Lift sensor settings]

Users can choose to turn off the lift sensor themselves.

[Raindrop sensor settings]

Now users can choose to turn off the raindrop sensor or set a rain pause time (up to 48 hours).

[Roll protection]

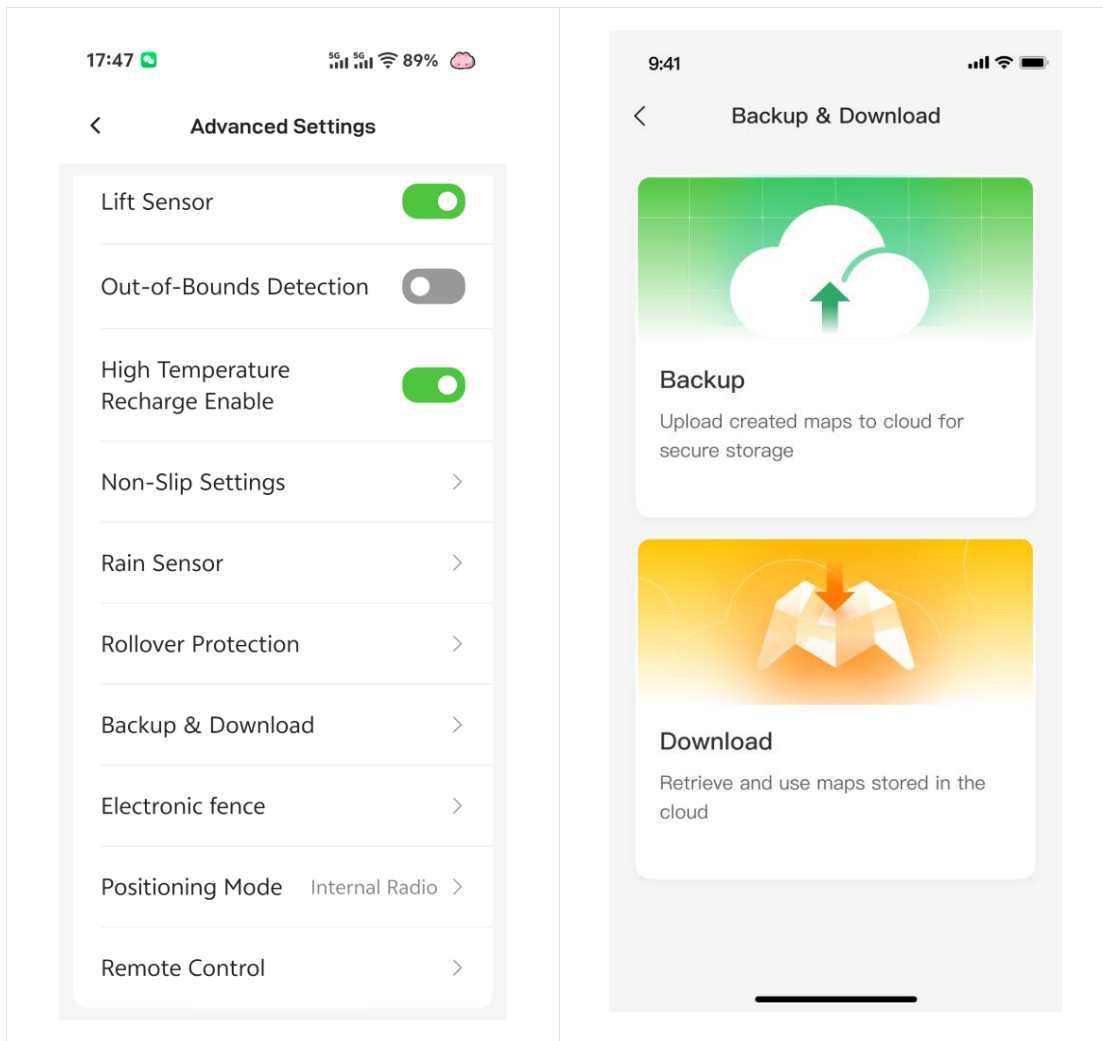
Now users can adjust the angle configuration, which will activate the tilt sensor. (15% -60%)

[Electronic fence]

Now users can set a fence area with a radius range based on the car or charging pile as the anchor point. If it exceeds the fence area, an alarm email will be sent and the operation will be stopped

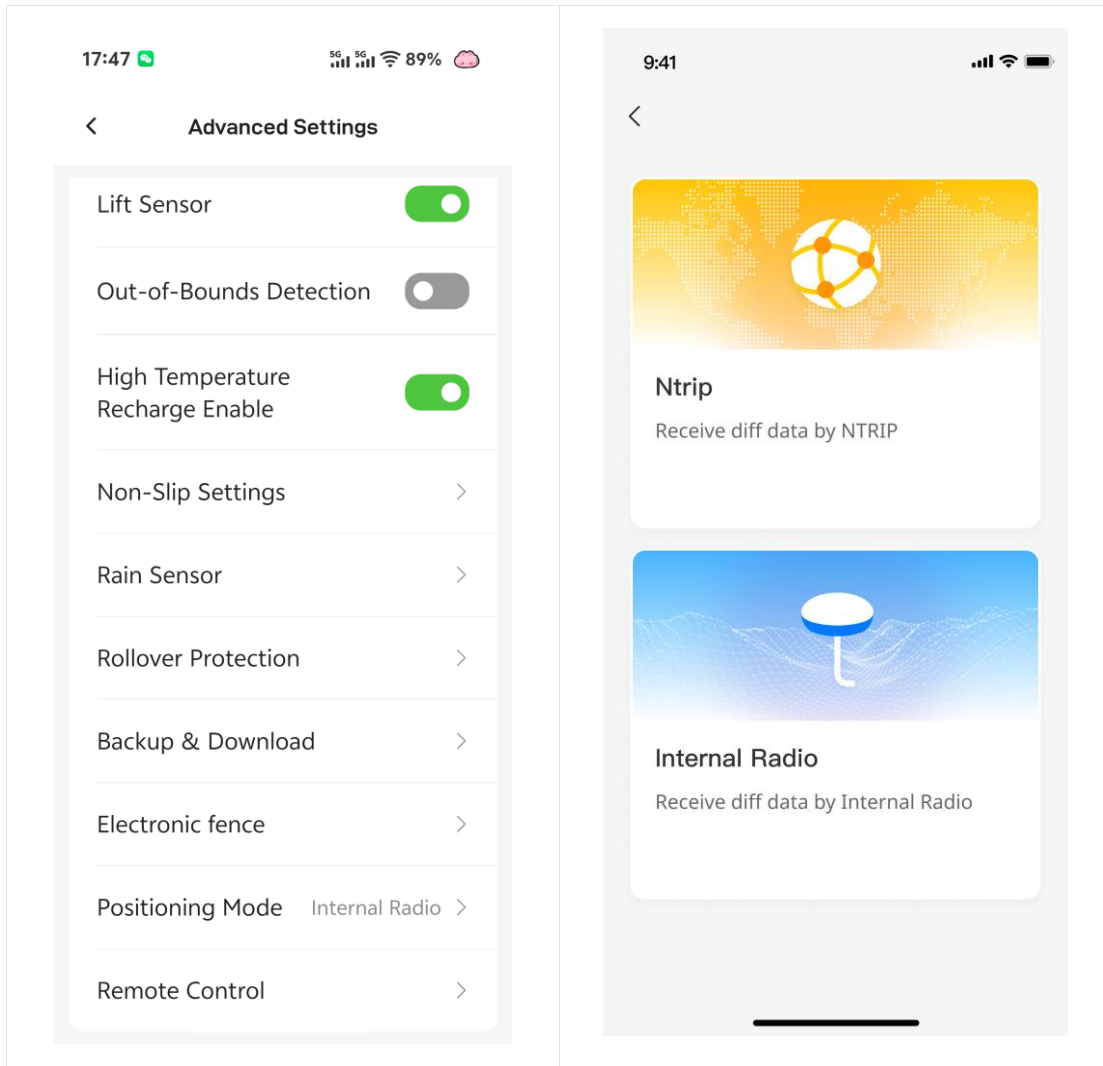
[Backup and Download]

Now users can actively upload local maps and backup current map information. At the same time, they can download the cloud to backup maps later



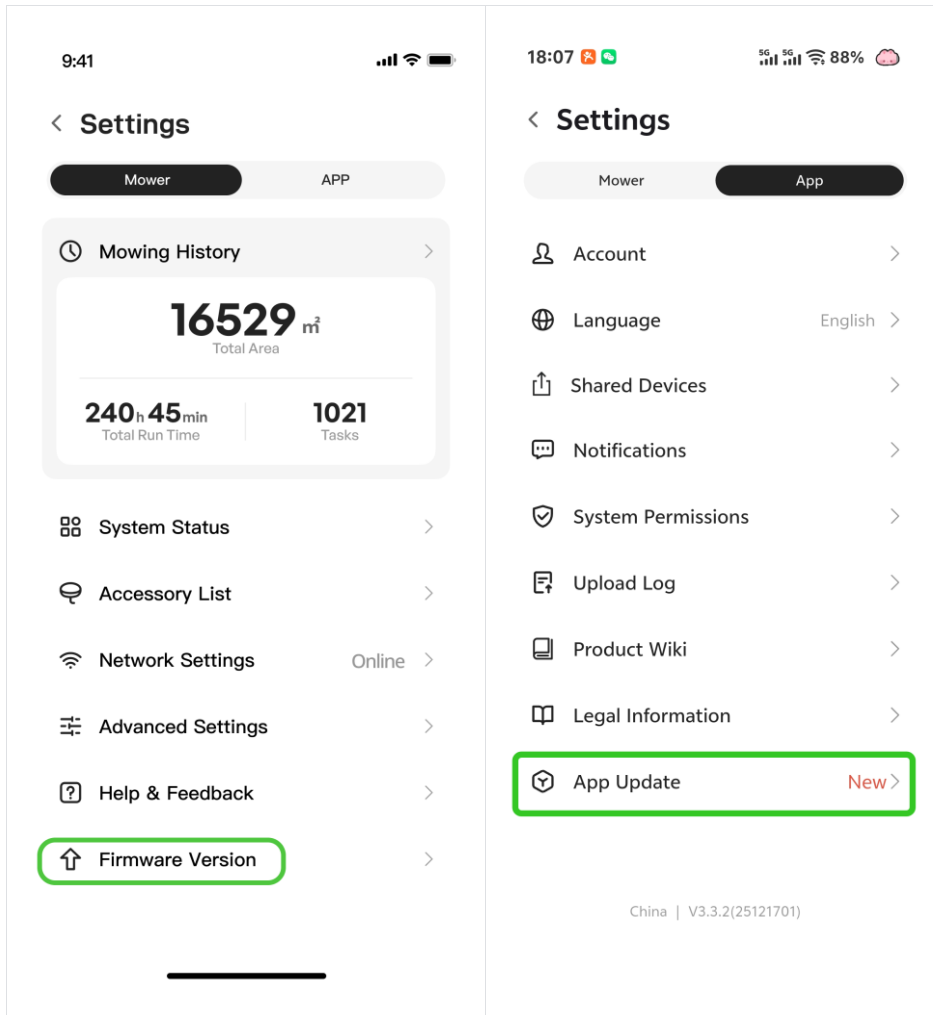
[Switch Positioning mode]

Now users can actively switch positioning modes, select Ntrip or Internal Radio



6.5.8 Upgrade firmware

1. It is recommended to upgrade when the automatic lawnmower battery is sufficient and has not been running for a period of time.
2. Make sure the automatic lawnmower is connected to a good Wi-Fi signal.
3. Go to {Firmware Version} and click {App Update}.
4. Wait for the upgrade to complete.



7. Maintenance

7.1 Maintenance plan

Cycle	Maintenance matters
Before first use	<ul style="list-style-type: none"> • Start up and check if there are any fault prompts • Observe if the wheels are loose • Check the cutter <ul style="list-style-type: none"> ◦ The cutting knife must be sharp. ◦ Check whether the cutting knife and disc bolts are loose and tighten them with a wrench • Inspect components such as bolts, nuts, or bolts for damage, loss, or looseness. Ensure that all protective devices are installed and working properly • To ensure that the operating system and applications remain up-to-date, check for software updates, and if so, install them in a timely manner (regularly update according

	to reminders).
In use	<ul style="list-style-type: none"> • Avoid working for long periods of time on wet grass or rugged terrain. • Periodically pause to check if the blade is entangled with debris. • Avoid colliding with hard objects such as stones, tree roots, etc. • Avoid working on potholes. • Larger obstacles such as tree trunks, thinner obstacles such as chair legs, etc. are easy to get stuck in the machine. Please circle them into a forbidden area
After each month of use	<ul style="list-style-type: none"> • Clean the cutting table (depending on the situation, increase the inspection frequency). <ul style="list-style-type: none"> ◦ Put down the cutter in the app accessories bar and turn off the power. ◦ Use a small water pipe, rinse appropriately, and avoid using a high-pressure water gun for hard flushing ◦ After cleaning and drying, turn on the machine • Check the cutter <ul style="list-style-type: none"> ◦ 4-6 weeks depending on the situation • Check for looseness of rear wheel bolts and tighten • Check the front wheel blockage and clean the grass clippings • Wipe the front glass of the machine and camera • Clear the weeds near the charging pile

7.2 Storage lawn mower






If you plan to not use this machine for a long time, please follow these steps to store it.

- Turn off the entire vehicle power.
- Clean the lawn mower as described in the previous section.
- Check the cutter and replace or sharpen it if necessary (see the Maintenance plan section).
- Store the lawn mower indoors in a dry, clean, well-ventilated, and out of reach of children. Do not place it next to corrosive materials such as fertilizers or rock salt.
- Do not cover the lawnmower with solid plastic sheets. Plastic coverings can trap moisture around the lawnmower, causing rust and corrosion.
- Thoroughly inspect for any worn or damaged parts that need to be replaced and order from the

dealer.

- For more information on battery pack maintenance, please refer to the battery pack maintenance section of this manual.

7.3 Battery maintenance

	During maintenance, only batteries designated by Fengjiang Intelligence can be used for replacement. Using any other parts may cause danger or product damage.
	Do not smoke when repairing batteries.
	Be sure to wear safety glasses and protective clothing near the battery. Use insulated tools.
	It is not recommended to use compressed dry air as a cleaning method for charging piles. If using compressed air for cleaning is the only available method, please always wear goggles. If the environment is dusty, also wear a dust mask.
	Use Fengjiang Intelligent's approved charging pile (charger) for charging. Incorrect battery charging will invalidate the warranty and may cause equipment damage, serious injury or death.

Your lawnmower is powered by batteries, which, if properly maintained, will provide years of service life. To receive proper care, please follow the instructions below.

- When not using the lawnmower, please disconnect the power switch of the car in time to reduce unnecessary battery consumption.
- Each time the battery is repaired, check whether the battery cable is firmly fixed to the battery.
- Prevent grass, dirt, and debris from accumulating near the battery terminals.
- After the battery undervoltage protection, the battery should not be kept in a discharge state for a long time, otherwise the battery will be damaged.
- Charge the battery in a ventilated and dry place away from sparks or airflow. Do not let the charging pile (charger) come into contact with rainwater, steam, or liquids.
- The charging piles (chargers) recommended by Fengjiang Intelligence only charge the batteries provided by Fengjiang Intelligence.
- Do not touch the charging pile electrode or the uninsulated part of the output connector.
- To extend the life of the battery pack and ensure that the module remains in good condition, please follow the instructions below.
- Excessive discharge of the battery pack means that the battery life will be shortened and the

battery may be permanently damaged.

- When the battery is fully discharged and turned off, please charge it as soon as possible. Even if you only charge the battery for 5-10 minutes, it is still beneficial and does not need to be fully charged. It is best to charge the battery within 24 hours after it is fully discharged and turned off.
- If the battery pack is not used for a long time (several days or weeks), please disconnect the power switch in the car to reduce the standby loss of the battery and extend the storage time of the battery pack.
- If the battery needs to be stored for a long time, please ensure that the battery is about 50% charged before starting storage, and regularly recharge the battery to more than 50% for three months to keep the battery in a healthy state.
- When the battery pack needs to be stored for a long time, it is recommended to store it in an environment with a temperature of 25 ° C (77 ° F). When the storage environment temperature is between -20 ° C and 45 ° C (-4 ° C)
- It is recommended to store for no more than one month in the range of ° F to 113 ° F; when the storage environment temperature is in the range of 0 ° C to 35 ° C (32 ° F to 95 ° F), it is recommended to store for no more than six months.
- The optimum discharge operating temperature is 0 ° C to 50 ° C (5 ° F to 122 ° F), and it is recommended to use it within the above temperature range.
- Battery packs should be stored without severe vibration.
- Battery maintenance tips:
 - Charge the battery before it runs out
 - Avoid recharging fully charged batteries
 - Charge at suitable room temperature and booster charge after battery cools

7.4 Maintenance points

- Park the lawn mower on a level surface. Make sure the cutter switch is in the "off" state, raise the cutting table, and press the emergency stop switch.

7.5 Warranty Plan

Non-abnormal use, non-drowning, according to the instructions for maintenance, provide the following quality assurance

Component	During the warranty period
Lawn mower body	2 years
Battery	2 years
Charging Stations & RTK	2 years

Wheel	Not guarantee
Decorations	Not guarantee
Lawn mower blade, cutting disc	Not guarantee





Before adjusting, cleaning, or repairing, wait for all movements to stop. Repairs or maintenance that require electricity can only be performed by trained maintenance personnel. Also, read the safety warning instructions in this manual.

- Any maintenance operation that requires removal of the safety cover must be performed by a trained service technician.
- Clean the bottom of the cutting table with a stick or similar tool, and keep your body away.
- By keeping the battery room and cutting table clean, prevent the accumulation of garbage, grass clippings, and other debris.
- Clean all dirt and debris in the battery room, electric control box, cutting table, etc. Do not use water, solvents, hard cleaners, or abrasives.
- When repairing batteries or sanding lawnmower blades and removing accumulated debris, be sure to wear goggles. When the lawnmower is running, do not attempt to cut the mower's cutting table,
- Any adjustment or repair of the cutter or any accessories.
- Do not work under the machine unless it is safely supported by a jack bracket. When the machine is raised and placed on the jack bracket, ensure that any maintenance operations that require removal of the safety cover must be performed by a trained service technician.
- Before checking the bottom of the cutting table, make sure that the power switch is in the "off" state, that is, the indicator light is off, and the cutting table blade switch must not be accidentally started.
- Use a cleaning brush or similar tool to clean the bottom of the cutting table, and do not approach the body.
- By keeping the battery room and cutting table clean, prevent the accumulation of garbage, grass clippings, and other debris.
- Clean all dirt and debris in the battery room, electric control box, cutting table, etc.
- When repairing batteries or sanding lawnmower blades and removing accumulated debris, be sure to wear goggles. Do not attempt to make any adjustments or repairs to the mower's cutting table, knives, or any accessories while the lawnmower is running.

The battery used in this lawnmower contains the following toxic and corrosive substances: lithium ions.

All toxic substances must be disposed of in a specific way to prevent environmental pollution. Before disposing of damaged or worn lithium-ion

	<p>batteries, please contact the local waste disposal agency or the local Environmental Protection Agency office for information and specific instructions. Send the batteries to the local recycling or processing center for lithium-ion treatment.</p>
	<p>If the battery ruptures, whether or not there is a leak, do not recharge or use the battery. Dispose of and replace the battery. Do not attempt to repair it! To avoid the risk of injury, explosion, or electric shock, and to avoid damage to the environment, please cover the battery terminals with insulating tape.</p>

- Do not attempt to disassemble or damage any batteries.
- Do not attempt to open the battery.
- If there is a leak, the released electrolyte is corrosive and toxic. Do not let the solution flow into the river or come into contact with the skin, and do not consume it.
- Do not place these batteries in household waste.
- Do not burn.
- Do not place it in a place that will become a landfill for any waste.

8. Troubleshooting

8.1 The mowing function fault of the cutting table and its treatment

If unsure, please contact your dealer.

Mowing cannot discharge well	Grass damp	Work after the lawn is dry
	The grass is long	Increase cutting height, cut twice
	Low cutting height	Increase cutting height
	Work fast	Reduce operating speed
	Work fast	Reduce operating speed

Remnants after cutting	The grass is long	Increase cutting height, cut twice
	The cutter is worn or damaged	Replace the new cutter
	The haystack is piled up inside the cutting platform	Clean the inside of the cutting table
Uneven cutting	Work fast	Reduce operating speed
	The cutter is not sharp enough	Sharpening cutter
	Blade bending	Replace the new cutter
	Cutting table is not level	Level the cutting table according to the "Adjust the level and height position of the cutting table" section in the manual
	Cutter wear	Replace the new cutter
	Incorrect roller setting	Adjust the height of the roller
	Low tire pressure	Air to normal tire pressure

	Low cutting height	Increase cutting height
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Cut to the grass (soil)	Fast turning speed	Reduce turning speed
	The ground is raised	Change mowing operation mode (cutting direction, etc.)
	Cutter bending	Replace the new cutter
Large vibration	The grass is piling up inside the cutting table	Clean cutting table
	The cutter is bent or unbalanced	Replace the new cutter or balance cutter
	Loose cutter fastening bolt	Tighten cutter fastening bolts
The cutting table has a large workload	Work fast	Reduce operating speed
	Grass piles and wraps around the cutting table shaft	Clean cutting table
The cutting knife is serrated and gray-brown	The cutter is not sharp	Sharpening cutter
	Cutter wear	Replace the new cutter
	Cutting table is not level	Leveling cutter
Error message displayed on the car computer	Handle and maintain according to the displayed error information	Handle and maintain according to the displayed error information
	Power switch	Check if the power switch is turned on and the

The lawn mower cannot start	light off	indicator light is on
	Battery cable not connected	Make sure the battery cable is connected
	Circuit breaker trip	Check if the circuit breaker trips

8.2 Battery failure and handling

When handling batteries, please read the battery precautions carefully.

Failure	Fault condition	Troubleshooting or solution
The lawn mower cannot start	The battery is dead	Fully charge the battery
	Poor battery terminal contact	Clean the terminals and then re-tighten the bolts and nuts
	Battery life is up	Replace the battery
	There are problems with the wiring harness and switch	Entrust dealer for maintenance
Cannot charge	Battery life is up	Replace the battery
The terminal is severely corroded and overheated	Insufficient terminal fastening	Clean the terminals and then re-tighten the bolts and nuts
	The battery	Replace the battery

Battery fluid suddenly decreases	has cracks and small holes	
	Charging voltage is too high	Check charging pile (charger)

8.3 Troubleshooting of lawn mower harness

The lawn mower cannot start	Poor contact of wiring harness terminals below power switch	The connector needs to be re-inserted into the switch when it is loose, and the switch harness pin needs to be repaired by a dealer when it is loose
	The plug-in on the wiring harness to the battery is loose	Check and plug in the plugin
Motor not working	Power harness or communication harness issues for each motor	Check whether the power harness and communication harness are on and off, and whether the plug-in is loose. If necessary, entrust the dealer for repair
Switching device not working	The plug-in on the wiring harness to the battery is loose	Check the problem switch according to the interface display, and then check whether the switch plug-in is abnormal. If so, you need to entrust the dealer to repair it

8.4 Cutting table cleaning

Note:

- Remember: To ensure safety, always wear heavy gloves, pants, and work shoes when cleaning the cutting table.
- Please follow the instructions and start cleaning the cutting table after the machine is turned off.
- Thoroughly clean the outside of the lawn mower with a soft brush or cloth. Do not use alcohol, gasoline, acetone, or other corrosive/volatile solvents for cleaning.

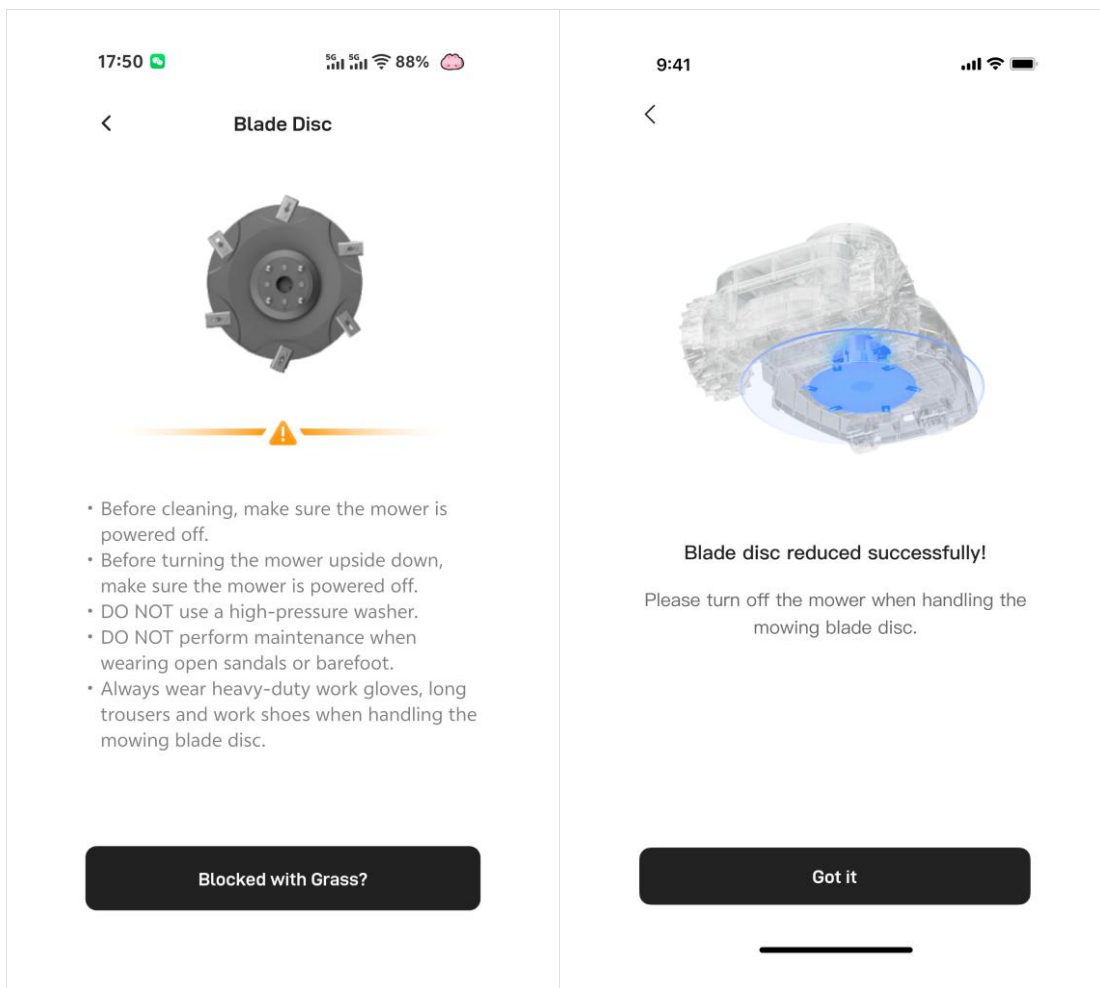
These substances may damage the external and internal structure of the lawn mower.

8.4.1 Cutting deck gets stuck

When you suspect that there is a grass blockage in the lawnmower cutting table, use the lawnmower lifting function to view and clean the blockage.

1. Keep the lawn mower turned on, open the mobile application, go to {Settings}, {Accessories List}, {Blade Disc}, and then click the {Blocked with Grass?} button.
2. After the Bluetooth connection is successful, the mowing tray will extend outward to the maximum extent.
3. After the extension is completed, please turn off the power of the lawn mower, lift the body of the lawn mower, and check whether the mowing tray is stuck by the grass.
4. After processing, put down the lawn mower and turn on the power, and the cutting disc will automatically return to its original state when it is raised and lowered.

Attention: When cleaning the cutting table, always wear gloves, pants, and work shoes.



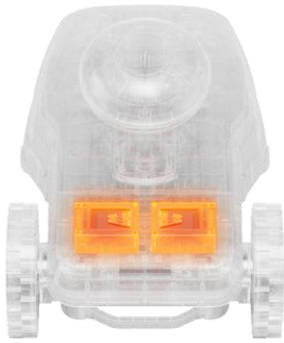
8.5 Common problems and solutions: will be displayed in the application

You can complete a self-test by checking these components to confirm the source of the fault

Emergency cessation



Battery abnormality



Location anomaly



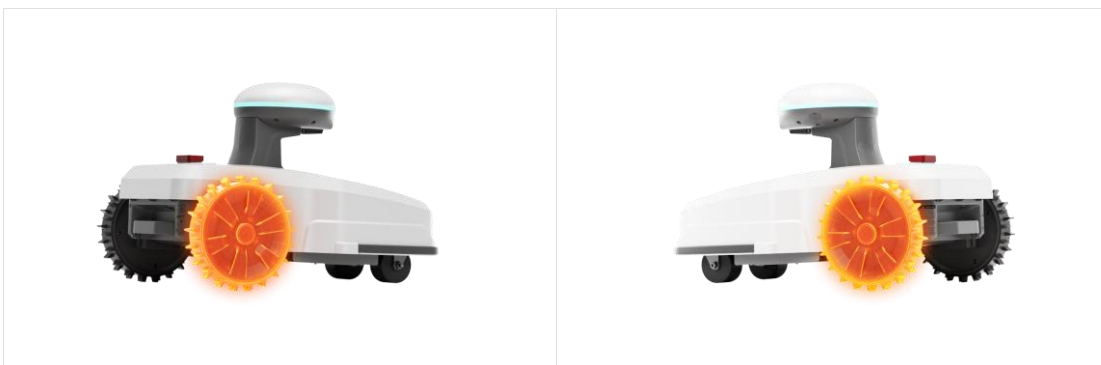
Collision



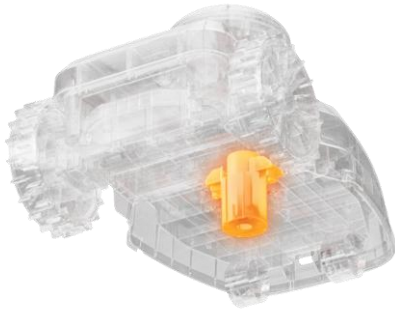
Front wheel anomaly



Drive wheel abnormality



Lifting motor abnormality



Cutter motor abnormality



9. Waste disposal

This product contains metal materials and electronic components. Waste disposal should be based on environmental protection principles, comply with local laws and regulations, and hand over the waste materials (including packaging materials, metal parts, electronic components, etc.) to local manufacturers with recycling qualifications for processing.

10. Storage

The correct storage method is crucial for maintaining the performance and extending the service life of lawn mowers. The following are a few points to note when storing lawn mowers:

- 1. Drying and ventilation:** The lawn mower should be stored in a dry environment to prevent the machine from getting damp and affecting the normal operation of its electrical system and mechanical components. At the same time, good ventilation conditions can prevent the internal parts of the machine from getting damp or corroded due to long-term closure.
- 2. Avoid direct sunlight and rain:** Direct sunlight and rain may cause the shell of the lawn mower to fade and deform, rapid aging of the painted pipeline, and even affect the performance of its internal electronic and mechanical components. Therefore, a place should be chosen to avoid direct exposure to sunlight and rain to store the lawn mower.
- 3. Non-corrosive gas environment:** The environment where lawn mowers are stored should avoid the presence of corrosive gases, as these gases may corrode the metal parts of the lawn mower and affect its service life.

4. **Regular inspection and maintenance:** Even if stored in the correct environment, it is recommended to regularly inspect and maintain the lawn mower to ensure that it is in the best condition. This includes checking for wear and tear on mechanical components, leaks in pipeline joints, and timely maintenance and replacement.

11. Important information

America's Federal Communications Commission (FCC)

FCC Statement

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.