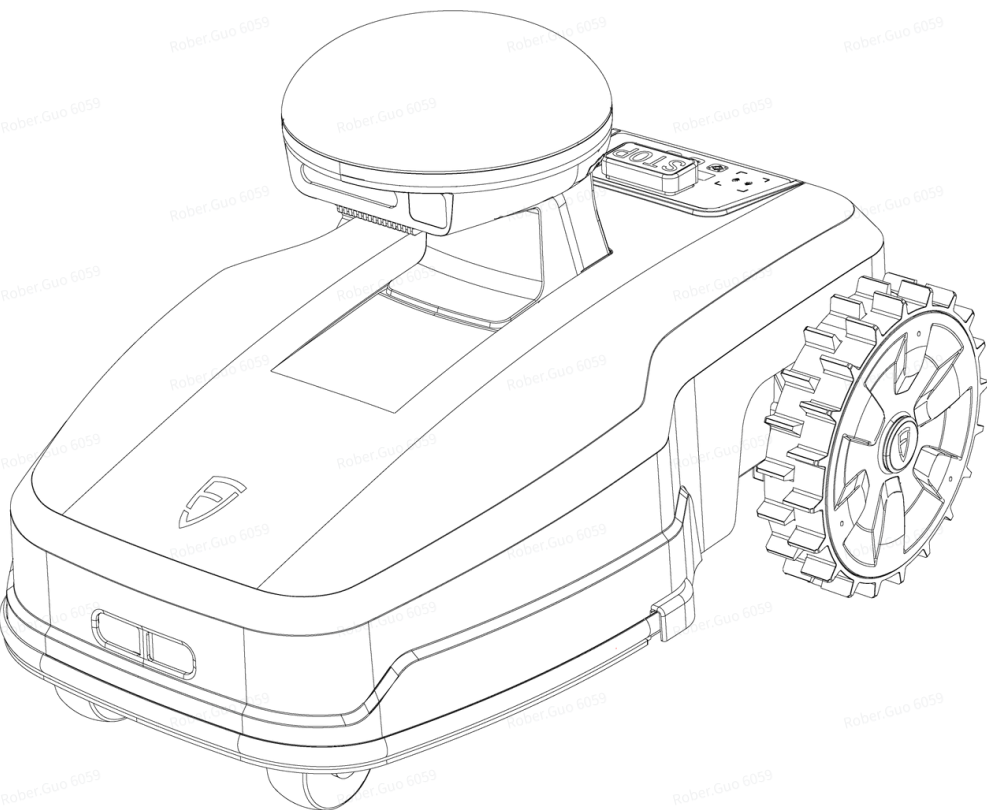


FR4000 Small Lawn Mower Instruction Manual (Chinese)



FR4000 Small Lawn Mower
Instruction Manual



2025-07 | Rev. 2.0

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Revision History:

Version	Date	Revised Content
1.0	2025.02	First Edition
2.0	2025.07	Remake

Read before use:



Please operate strictly in accordance with this user manual!

Improper use may lead to device damage and performance degradation;

If you encounter any problems during use, please contact the service staff in a timely manner.

Disclaimer:

- The products, services, or features you purchase are subject to commercial contracts and terms. Certain products, services, or features mentioned in this manual may not be within the scope of your purchase or use. Unless otherwise provided in the contract, Fengjiang Intelligence makes no express or implied representations regarding the content of this manual.
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Safety Notice



This symbol indicates important safety instructions. Failure to follow these instructions may endanger the personal safety or property of operators and other personnel. Before attempting to operate the lawn mower, please read and understand all instructions in this manual.

Assess the level of risk associated with this product based on the meanings of the following signal words

Safety Warning Symbol	Signal Word	Description
	Danger	Indicates an urgent and dangerous situation that, if not avoided, could result in death or serious injury.
	Warning	Indicates a potentially dangerous situation that, if not avoided, could result in death or serious injury.
	Attention	(No safety warning symbol) indicates a situation that may cause property damage.

 Warning	Before using this machine, please be sure to read and understand all safety instructions in this manual, including the content of safety warning symbols. If you do not understand the warnings and instructions in this manual, do not use this product. This machine is only for use by persons who have read, understood, and complied with the safety signs printed on this manual and the lawn mower, and meet the age requirements of local regulations.
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 Warning	When using this machine, basic safety precautions should always be followed to reduce the risk of explosion, electric shock, fire, and other serious personal injuries.
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 Warning	People wearing electronic medical devices such as pacemakers should consult a doctor before using this product. Operating electrical equipment near a cardiac pacemaker may cause pacemaker interference or malfunction.
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- Before attempting assembly and operation, please read, understand, and comply with all instructions and warnings in this manual.
- Please familiarize yourself with all control devices and their correct operating methods, and know how to quickly stop the operation of the equipment and disconnect all control devices.
- Do not allow children or untrained adults to operate or repair this equipment.

- Please note that local regulations may restrict the age of operators, so please comply with the user age requirements stipulated by local laws.
- If a situation not covered in this manual occurs, please make a careful judgment and contact after-sales service for assistance.

1. Overview

1.1 User Instructions

The purpose of this manual is to assist owners and operators in maintaining and operating this lawn mower. Please read the manual carefully. The information and instructions provided in this manual can help you achieve reliable Computer Performance. Owners should ensure that operators and mechanics read and understand this manual. Before operating this machine, please read the manual and all safety signs. Owners should ensure that operators and mechanics are qualified and capable of operating this equipment. All mechanics of dealers must be familiar with the safe operating methods of this equipment. Never allow children or untrained personnel to operate or repair this equipment. Please note that local regulations may restrict the age of operators.

1.2 Instruction Manual Usage

This manual applies to the FJD FR4000 series, providing users with an overview of the basic operation, installation, adjustment, and maintenance guidelines for the lawn mower. Due to significant differences in operating conditions, this manual cannot cover all situations. Unless otherwise specified, directional descriptions such as "to the right" and "to the left" in this manual refer to the directions when the operator stands with their back to the front of the lawn mower. The photos and illustrations used in this manual were the latest version at the time of printing, but due to subsequent production adjustments, the actual condition of the machine may vary slightly. Fengjiang Intelligent Technology Joint Stock Company (hereinafter referred to as "Fengjiang Intelligent") reserves the right to redesign and modify the machine as needed without prior notice. If you notice any changes to the machine not mentioned in the manual, please consult Fengjiang Intelligent's product distributor to obtain the latest information on current components.

1.3 Intended Use of the Product

This intelligent lawn mower is only used for mowing grass.

1.4 General Information

1. Before assembling and operating the equipment, please carefully read, understand, and strictly follow all instructions and warnings in this manual. Please keep this manual properly for easy reference at any time.
2. Please make sure to familiarize yourself with all control devices and their correct operating methods, and master the ways to quickly stop the operation of the equipment and disconnect the control devices.
3. It is strictly prohibited for children or untrained personnel to operate or repair this equipment. Please note that local regulations may impose age restrictions on operators, so please strictly comply with the age requirements stipulated in relevant laws.
4. If you encounter a situation not covered in this manual, please exercise caution, avoid blind operation, and promptly contact after-sales service to obtain professional assistance.

1.5 Equipment Modification

If users need to improve device performance, they may contact Fengjiang Intelligence for official modification. Do not change the product configuration on your own; otherwise, you will not be able to file any legal claims regarding the modified product based on the content of this manual. Only original factory parts may be used during modification; using other parts will invalidate the warranty. Do not install non-standard devices on the equipment without the permission of Fengjiang Intelligence to avoid causing danger or damaging the equipment.

1.6 Maintenance Service

1.6.1 Warranty Card

The owner must register the device by filling out the Warranty Registration Form provided in the package. As a new device owner, when using the Warranty Registration Form, it must be filled out and signed by both the authorized dealer and the original purchaser.

2. General Safety Warnings for Power Tools

2.1 Safety of the workplace

- Keep the workplace clean and bright. A cluttered and dim environment can easily lead to accidents.
- It is prohibited to operate power tools in explosive environments where flammable liquids, gases, or dust are present. The fire generated by the operation of power tools May ignite these flammable substances, leading to danger.
- When operating power tools, ensure that children and bystanders are kept away from the work area. Distraction may lead to ineffective control tools, thus causing accidents.

	Read all safety warnings, instructions, illustrations, and regulations provided with the power tool. Failure to comply with the instructions listed below may result in electric shock, fire, or serious injury. Save all warnings and instructions for future reference. The "power tools" in the warning refer to mains-powered (corded) power tools or battery-powered (cordless) power tools.
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2.2 Electrical Safety

- Electric tool plugs must match the sockets, and it is strictly prohibited to modify the plugs in any way. Electric tools that require grounding are prohibited from using adapters
Connect the plug. Using the original plug and compliant socket can reduce the risk of electric shock.
- Avoid body contact with grounded objects such as pipes, heat sinks, refrigerators, etc. during operation. Body grounding increases the risk of electric shock.
- Do not expose power tools to rain or damp environments, as water ingress into the tools can easily lead to electric shock hazards.
- It is strictly prohibited to misuse electrical wires. Do not directly lift, drag power tools or pull out plugs by the wires. Ensure that the wires are kept away from heat sources.
Oil stains, sharp edges, moving parts, damaged or entangled wires can significantly increase the risk of electric shock.
- When using power tools outdoors, be sure to use extension cords that meet outdoor standards, as compliance wires can effectively reduce the risk of electric shock.
- If it is unavoidable to operate in a humid environment, a power supply equipped with residual current device (RCD) protection must be used, and the RCD can significantly reduces the risk of electric shock.

2.3 Usage compliance of power tools

- When operating power tools, stay alert, focus on the current operation, and follow common sense. Do not operate power tools when you are tired or under the influence of drugs, alcohol, or medication. A momentary lapse of attention while operating power tools can lead to serious personal injury.
- Use personal protective equipment. Always wear goggles. Using protective equipment such as dust masks, non-slip shoes, safety helmets, or hearing protection devices under appropriate conditions can reduce personal injuries.
- Prevent accidental start. Ensure the switch is in the off position before connecting the power supply and/or battery pack, picking up, or transporting the tool.
- Charging while fingers are on the switch or the switch is on when handling tools can lead to accidents.
- Before starting the power tool, remove all adjustable Allen wrenches or adjustable wrenches. An adjustable wrench or Allen wrench left on the rotating parts of the power tool can cause personal injury.
- Do not overextend your arms. Always stand firmly and maintain body balance. This will enable better control of the power tool in case of an accident.
- Dress Code. Do not wear loose clothing or jewelry. Keep hair and clothing away from moving parts. Loose clothing, accessories, or long hair may get caught in moving parts.
- If there are connection devices for dust collection and dust collection equipment, ensure that they are properly connected and used correctly. Using dust collection equipment can reduce dust-related hazards.
- Do not take it lightly or neglect the safety guidelines of the tools just because you use them frequently and are familiar with them. Any negligence may lead to serious injury in an instant.

2.4 Usage and Precautions of Electric Tools

- Do not misuse power tools. Be sure to select the appropriate tool according to the purpose of use. Operating in accordance with the rated parameters ensures the efficient and safe operation of the tool.
- It is strictly prohibited to use power tools with malfunctioning switches. Tools that cannot be properly controlled by the switch pose a significant safety hazard and must be repaired immediately.

- Before adjusting, replacing accessories, or storing the power tool, be sure to disconnect the power supply and remove the removable battery pack. This precaution can effectively prevent the tool from starting accidentally.
- Idle power tools should be stored out of reach of children, and personnel unfamiliar with the tools and operating instructions are prohibited from using them. Operating power tools without training can easily lead to danger.
- Regularly maintain power tools and their accessories, check whether moving parts are misaligned or jammed, and whether parts are damaged or have other conditions that affect operation. If damage is found, it must be repaired before use, as many accidents result from improper tool maintenance.
- Keep cutting tools sharp and clean. Well-maintained sharp tools are less likely to be laggy and easier to handle.
- Use power tools, accessories, and cutting heads correctly in strict accordance with this instruction, taking into account the working environment and content. Using the tools for non-intended purposes may lead to danger.
- Ensure that the handle and gripping area are dry, clean, and free of grease. A slippery or greasy gripping surface can affect the safe operation and control of the tool, increasing the risk of accidents.

2.5 Usage and Precautions for Battery Tools

- Only use the charging piles (chargers) specified by the manufacturer for charging. Using a charging pile (charger) designed for a certain type of battery pack on other battery packs may cause a fire.
- Be sure to use the dedicated battery pack for the power tool. Using an incompatible battery pack may result in personal injury or a fire accident.
- Idle battery packs should be kept away from metal objects such as paper clips, coins, keys, nails, and screws, as these objects may short-circuit the positive and negative electrodes of the battery pack, potentially leading to burns or fires.
- Improper use of batteries may cause liquid leakage. Avoid contact with the leaked liquid; if contact occurs accidentally, rinse immediately with a large amount of clean water; if the liquid gets into the eyes, seek medical attention immediately. The liquid leaked from batteries is corrosive and may cause irritation or burns.
- Do not use damaged or modified battery packs and tools. Such batteries have unstable performance and may cause fire, explosion, or personal injury.

- Do not place the battery pack or tool in a fire or high-temperature environment. Exposure to open flame or high temperatures above 130°C may cause an explosion.
- Strictly follow the charging instructions and do not charge the battery pack or tool outside the specified temperature range. Improper charging or abnormal temperature may damage the battery and increase the risk of fire.

2.6 Maintenance

- Electric tools must be repaired by qualified maintenance personnel using the same spare parts. This ensures the safety of the electric tools.
- Do not attempt to repair damaged battery packs on your own. Battery packs should be repaired by the manufacturer or an authorized repair service provider.

3. Precautions

3.1 Operator's Instructions

- When using machinery, approved personal protective equipment must be used, which at least includes safety helmets, eye protection devices, hearing protection devices, compliant work uniforms, safety shoes, etc. Personal protective equipment cannot eliminate the risk of injury, but it will reduce the severity of injury if an accident occurs.
- Only responsible, trained, instruction-familiar, and physically healthy personnel are allowed to operate the machine.
- Do not wear clothing with safety hazards such as scarves, loose clothing, shorts, and open-toed shoes when mowing grass to prevent being caught by machine parts during operation. Do not use the machine barefoot.
- When operating a lawn mower in a dusty environment, always wear a full-face mask or dust mask.
- Always wear gloves when handling the cutter.
- When operating machinery, use ear protectors to avoid hearing damage. Do not use a radio or wear music headphones.
- To ensure safe operation, the operator needs to stay focused, concentrate on the mowing task, always keep an eye on your destination, and be aware of the surrounding environment.
- Carefully observe the equipment and pay attention to any possible abnormal situations.
- Ensure that first-aid equipment is available nearby when using the machine.

- Do not operate the lawn mower when tired.
- Do not operate the lawn mower under the influence of substances such as drugs, alcohol, or narcotics.

3.2 Lawn Mower Operation

- Read, understand, and comply with all the contents on the machine and in the instruction manual before starting operation.
- It is recommended to inform relevant personnel that you are mowing the lawn so that assistance can be provided in the event of injury or accident.
- Personnel operating, maintaining, and servicing this machine must first read and understand this manual. Comply with the user age requirements stipulated by local laws. The machine owner has the obligation to train personnel using this machine.
- The owner and operator of this machine shall prevent accidents and be responsible for any accidents or injuries to themselves, others, or property.
- Do not place hands or feet near rotating parts or under the machine, and always stay away from the grass discharge outlet.
- Before operation, ensure that there are no bystanders or animals in the area. If anyone enters the area, stop the equipment.
- Do not mow in reverse unless absolutely necessary. When operating the lawn mower using the remote control, pay attention to the direction of operation and the surrounding environment.
- Do not operate the equipment without complete safety devices installed or when safety devices are damaged.
- Do not operate poorly maintained equipment.
- It is recommended not to operate on slopes greater than 30 degrees.
- Pay attention to road conditions when near or crossing a road.
- Clean up spilled grass clippings before operating or storing the machine.
- If the lawn mower starts to vibrate abnormally, stop the machine and immediately check the cause. Abnormal vibration is usually a sign that the lawn mower is not working properly.
- When not mowing, stop the cutter, turn off the power, and wait for all components to come to a complete stop before cleaning the machine. After the machine is turned off, the cutting blade will continue to rotate for a few seconds. Do not place any part of your body in the blade area until you are sure the blade has stopped rotating.

- If the lawn mower hits a foreign object, stop the machine immediately and check for any damaged parts when it is safe to do so.
- If a situation not covered in this manual occurs, please exercise caution, make appropriate judgments, and contact the dealer for assistance.

3.3 Operating Area

- Before trimming any area, thoroughly check the area for any hazards, including any holes, falling objects, or hidden objects that may pose a danger. Debris that may be thrown by the cutter, such as stones, toys, wires, etc., needs to be cleared.
- Do not operate near people or animals. Do not mow the lawn when children or other people are nearby.
- Plan the mowing method to avoid discharging grass clippings onto roads, sidewalks, bystanders, vehicles, windows, etc.
- Do not cut any other objects except grass.
- Do not allow the cutter to pass through leaves or other debris that may cause accumulation.
- When passing through dirt roads, gravel roads, or paved surfaces, please stop the operation of the cutter.
- When approaching blind spots, inner openings, shrubs, trees, or other objects that may block your line of sight, please exercise extra caution, as these objects may impede the progress of the lawn mower.
- To reduce the risk of electric shock, do not operate the lawn mower in the rain, on wet surfaces, or in wet grass.
- To avoid loss of control or rollover, do not operate at the edge of a steep slope or near water. When on a slope, slow down and exercise extra caution.
- It is prohibited to operate on slopes near pools or ponds, as machines are prone to sliding into the water.
- Maintain a safety distance of at least 1m from the edges of pools and lakes, ensuring there are no jams nearby and the machine will not slide into the water.

3.4 Slope operation

- Slopes are the primary cause of accidents leading to equipment loss of control and overturning, which may result in serious injury or death. Operating on slopes requires extra caution. If you cannot confirm whether the slope conditions are suitable for operation, do not mow it.
- Avoid starting or stopping on slopes.
- The recommended slope for trimming slopes should not exceed 25 degrees, with a maximum of 33°.
- Do not operate the machine under conditions where there are issues with tire friction, steering, or stability. Even when parked on a slope, the tires may slide.
- Always keep the machine running when going downhill, and do not coast in neutral.
- Be aware of holes, ruts, rocks, or other hard-to-spot obstacles, especially high grass areas that can hide obstacles. Uneven terrain and obstacles may cause the machine to tip over.
- Choose to drive at a low speed so that you don't have to stop on the slope.
- Do not mow on slopes when the grass is wet, as the tires may slip.
- Move slowly and steadily on slopes. Do not suddenly change speed or direction, as this may cause the machine to tip over.
- Extra caution must be exercised when the equipment is loaded with grass collection accessories or other attachments, as they can affect the stability of the machine.
- It is prohibited to operate on slopes near pools or ponds, as machines are prone to sliding into the water.

3.5 Child Safety

- If the operator fails to notice the presence of children, a tragic accident may occur. Children are often attracted to machines and mowing activities.
- Keep children away from the mowing area and under the supervision of an adult other than the operator.
- If children enter this area, please stay vigilant and turn off the machine.
- Ensure there are no children nearby when mowing or operating the lawn mower to move.
- Do not allow children to operate the machine.
- Exercise extra caution when approaching blind spots, bushes, trees, or other objects that may obstruct your view.

3.6 Battery and Charging Safety

	If used improperly, the battery may pose a risk of fire or chemical burns. Do not allow it to overheat, disassemble, or incinerate the battery. Under conditions of overuse, charging, or extreme temperatures, or if the battery is damaged, squeezed, or punctured, etc., the battery may leak. Such leakage indicates a malfunction of the battery, please dispose of the battery properly.
	Note: Only replacement batteries and charging piles (chargers) provided by Fengjiang Intelligence can be used. Charging in other ways may cause damage to the lawn mower or remote control.

Safety Specifications for the Use of Charging Piles (Chargers):

- It is strictly prohibited to use charging piles (chargers) in rainy conditions, damp environments, or places with flammable liquids or gases, and they shall not be installed in outdoor areas, areas prone to water accumulation, or areas with flammable and explosive substances.
- Be sure to confirm the applicable voltage marked on the charging pile (charger), and it is prohibited to connect to an unmatched AC power source.
- Do not use extension cords unless necessary; if you need to use them, you must ensure that the rated current of the extension cord meets the requirements of the charging pile (charger) to avoid voltage drop, power outage, or overheating caused by insufficient current, which may lead to fire or electric shock hazards. At the same time, it is prohibited to use multiple power extension cords simultaneously.
- Regularly inspect the power cord and extension cord of the charging pile (charger). If any damage, cuts, or cracks are found in the insulation layer, immediately disconnect it from the socket and the device. Damaged power cords must not be used continuously and should be repaired or replaced promptly.
- Use the power cord properly, prohibit dragging the wire to move the charging pile (charger), and keep the wire away from heat sources, oil stains, water sources, sharp edges, and moving objects. When plugging or unplugging the power, please hold the plug for operation, and it is strictly prohibited to modify the plug and power cord.
- Avoid placing the charging pile (charger) in a location where it is prone to being stepped on, tripped over, or damaged. When storing it, choose a cool and dry place to prevent liquid intrusion.

- It is strictly prohibited for small metal objects (such as steel wool, aluminum foil) or other foreign objects to enter the charging pile (charger) port; covering the charging pile (charger) is prohibited to prevent the equipment from overheating.
- When the battery or charging pile (charger) overheats, wait for it to cool down before operating. The charging temperature must be controlled within the range of 0°C to 40°C (32°F to 104°F), and charging should not be carried out in a narrow or poorly ventilated space.
- During charging, smoking or using open flames near the battery is strictly prohibited to prevent sparks from causing a fire.

Battery Usage and Safety Precautions:

- When the battery-powered lawn mower is in operation, it is prohibited to connect to the mains for charging and it can only be powered by the battery to reduce the risk of electric shock, explosion, or personal injury.
- When performing battery charging and discharging operations, safety glasses, protective clothing must be worn, and insulated tools must be used.
- Batteries contain toxic liquids and explosive gases. Contact with skin, eyes, or clothing may cause chemical burns, and gas leakage may lead to serious injury or even death.
- Incorrect battery cable routing may damage the lawn mower, cause battery sparks or even explosions, resulting in serious personal injury.
- Do not expose batteries to open flames or high-temperature environments to prevent explosion; idle batteries should be kept away from metal objects (such as paper clips, coins, etc.) to avoid short-circuiting of terminals, which may cause sparks, burns, or explosion.
- Do not use or charge damaged, leaking, or corroded batteries; do not throw batteries into fire to prevent explosion.
- Batteries or conductors under high temperature conditions may cause burns, so exercise caution during operation.

Emergency handling of battery leakage:

- If the leaked liquid splashes onto the skin or eyes, immediately rinse the skin with a large amount of cold water, rinse the eyes for at least 20 minutes, and seek medical attention as soon as possible.
- If liquid leakage gets on clothing or shoes, they must be immediately removed and washed.
- If you feel respiratory irritation when opening the battery, you should immediately move to a well-ventilated area; if the symptoms persist, seek medical attention promptly.

- If the battery emits smoke or gas during use, charging, or storage, immediately ventilate the area and evacuate the site to avoid the health hazards of gas in an enclosed space.

3.7 Loading, unloading and transportation

- It is recommended that the angle between the ramp and the ground does not exceed 25 degrees.
- Use a ramp with sufficient strength, and remotely control the lawn mower to be loaded onto a truck or trailer at a slow speed. Do not lift the machine by hand.
- Familiarize yourself with the controls of the lawn mower before operating it on slopes.
- Do not operate this machine on public roads.
- Before transporting the machine on the road, please check and comply with local traffic regulations.

3.8 Storage



Please store properly and make sure to turn off the lawn mower when cleaning.

- Please store the machine after it has cooled down.
- When the lawn mower is not in use, it should be stored in a dry place, out of reach of children, and protected from long-term direct sunlight.

3.9 Maintenance

- Before performing maintenance, cleaning, or removing parts from the lawn mower, please first remove the battery or disconnect the power supply.
- Do not reach under the cutter guard. Keep hands, feet, and clothing away from the rotating cutter.
- Be sure to use accessories approved by Fengjiang Intelligence.
- Electrical maintenance can only be performed by trained professionals.
- Maintaining a lawn mower requires keeping the blade sharp and clean to ensure optimal performance and safe operation.

- Check the daily and weekly maintenance lists to ensure that electrical connections are secure and bolts are tightened.
- Do not remove or tamper with safety devices, and regularly check their normal operating status. Do not do anything that interferes with the intended function of safety devices or reduces their functionality.
- Before restarting and operating the lawn mower, repair or replace all damaged components.
- Regularly check the lawn mower cable. If it is damaged, have it repaired by an authorized repair agency.
- When replacing the cutter, wrap the cutter or wear gloves. Replace damaged cutters; do not repair or modify them.
- Keep the lawn mower free from the accumulation of grease, dirt, and other potential combustible materials.
- To avoid personal danger and damage to the machine, do not use a high-pressure washer for cleaning.
- Do not use battery-powered lawn mowers in the rain.
- Regarding the tire pressure, please ensure that you inflate the tires to the specified pressure as stated in the user manual. Over-inflation can cause tire rupture, which may lead to casualties. If there are scratches (cracks) on the tire, do not use it, as there is a risk of tire rupture. In this case, be sure to contact Fengjiang Intelligence or the dealer to replace or repair the tire, inner tube, rim, etc.

4. Symbol Identification

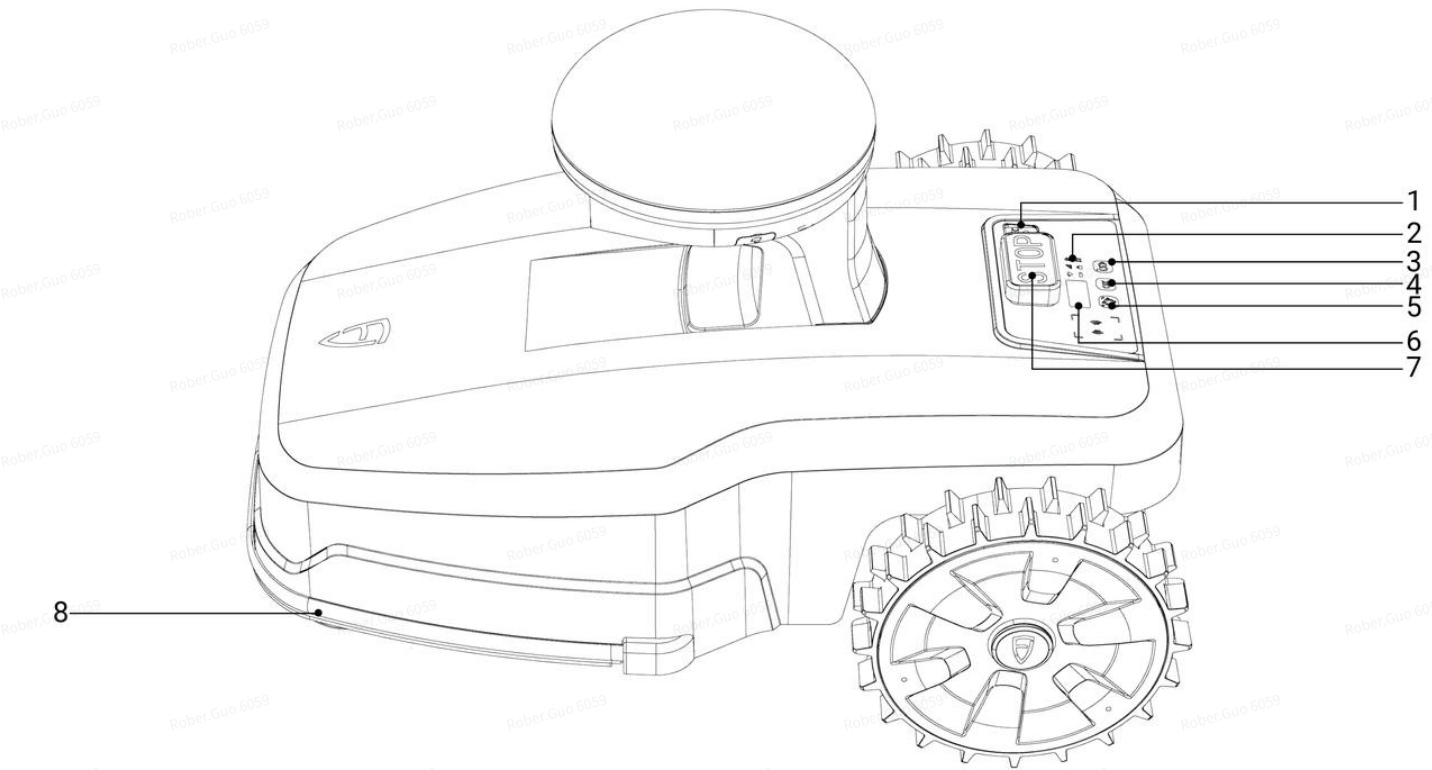
The following are some symbol markings that may be used on this product. Please read and understand their meanings. Correctly understanding these symbols will enable you to operate the product better and more safely.

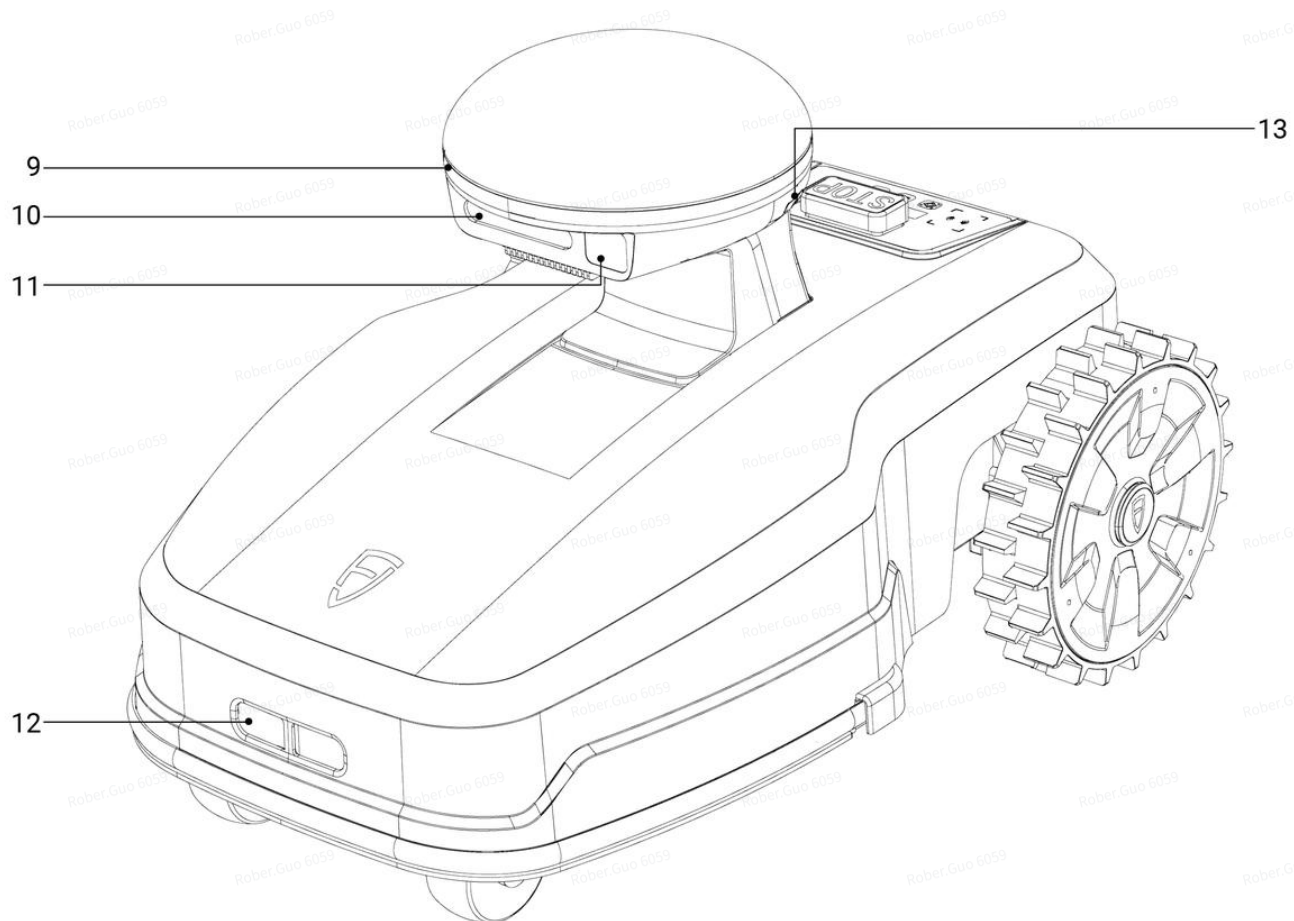
V	Volt	Unit of Voltage
A	Ampere	Current Unit
Hz	Hertz	Frequency Unit
W	Watt	Power Unit
min	minutes	Time Unit

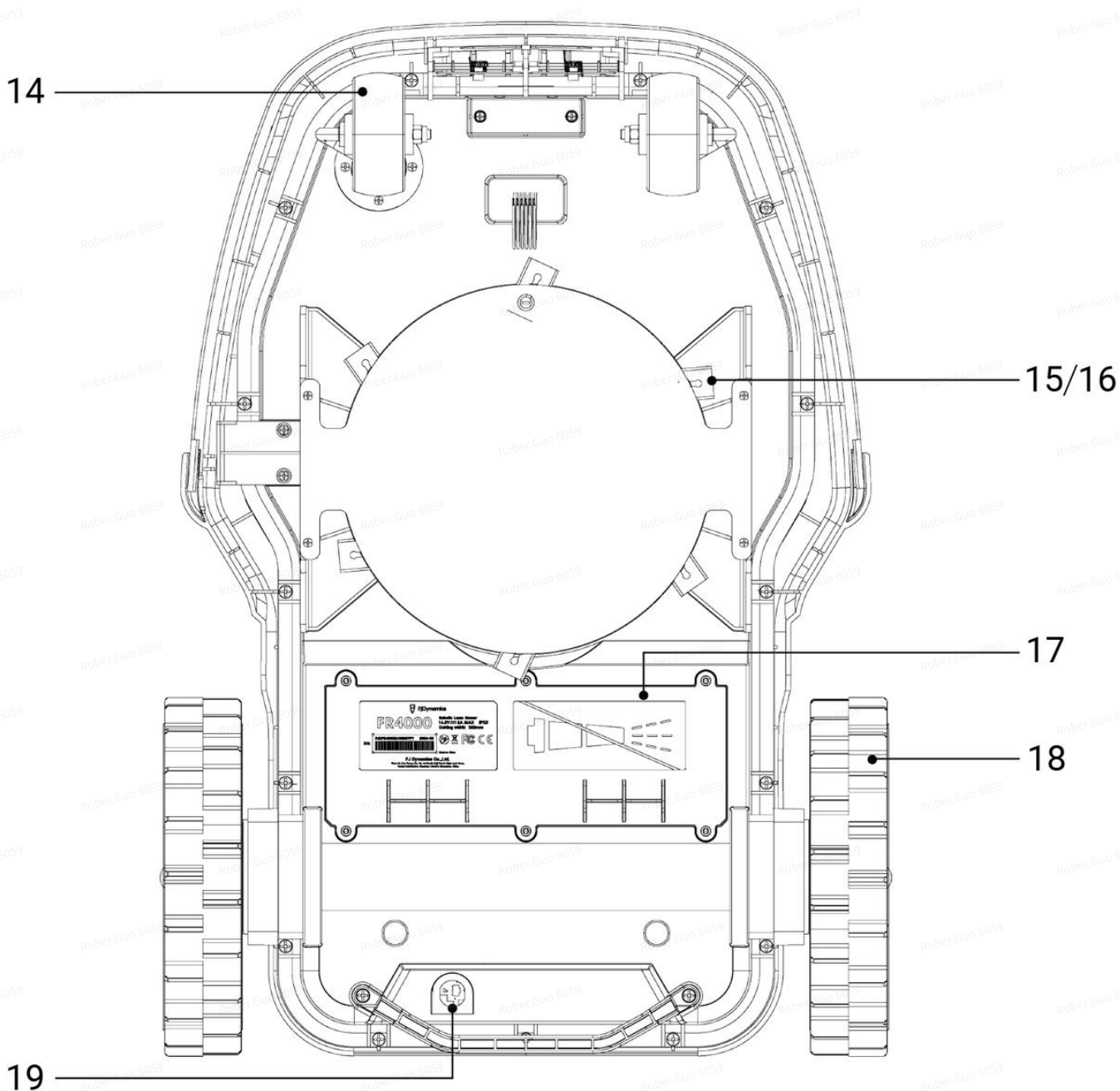
---	Direct Current	Type or characteristic of current
Km/h	kilometers per hour	The driving speed of the lawn mower
	Safety Warning	indicates a potential risk of personal injury.

5. Product Introduction

5.1 Lawn Mower



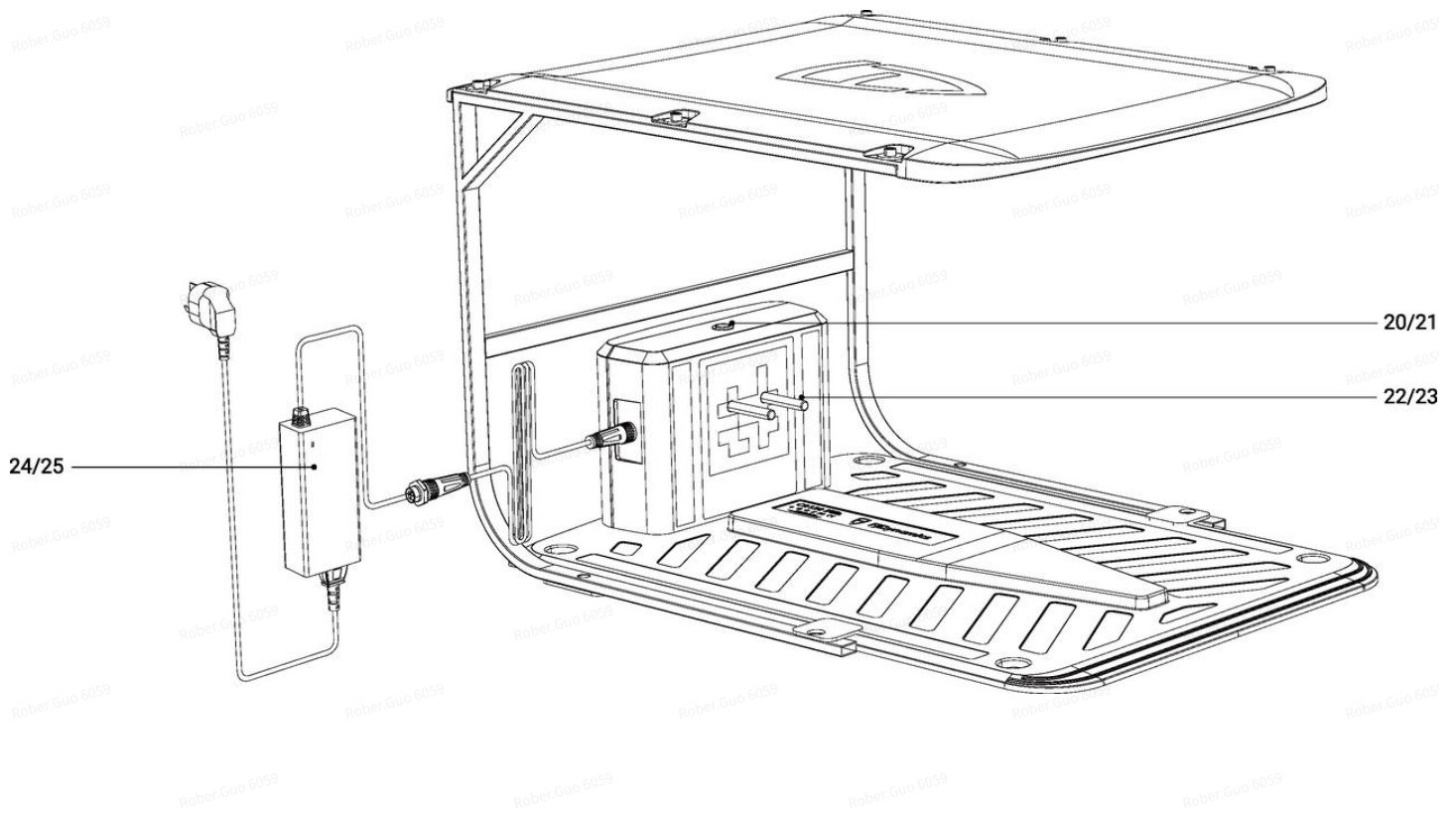




Number	Component Name
1	Rain Sensor
2	Indicator Light Area
	Wi-Fi Indicator Light
	4G Signal Indicator
	Bluetooth Indicator
	Power Indicator
	Lock indicator light

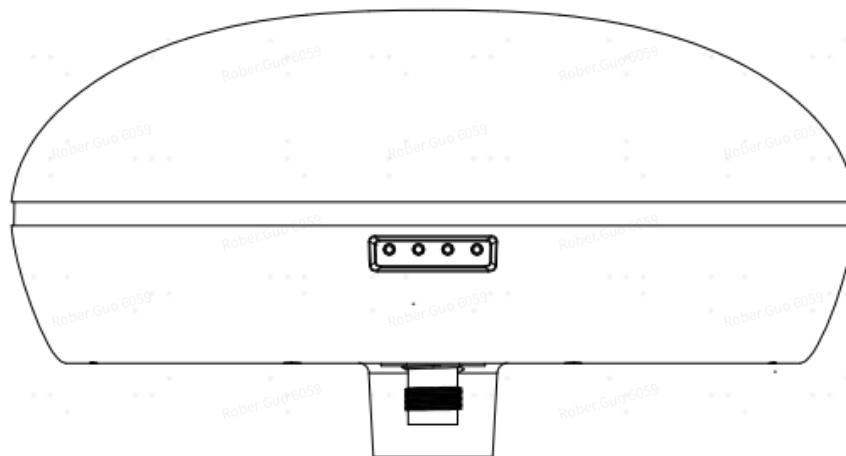
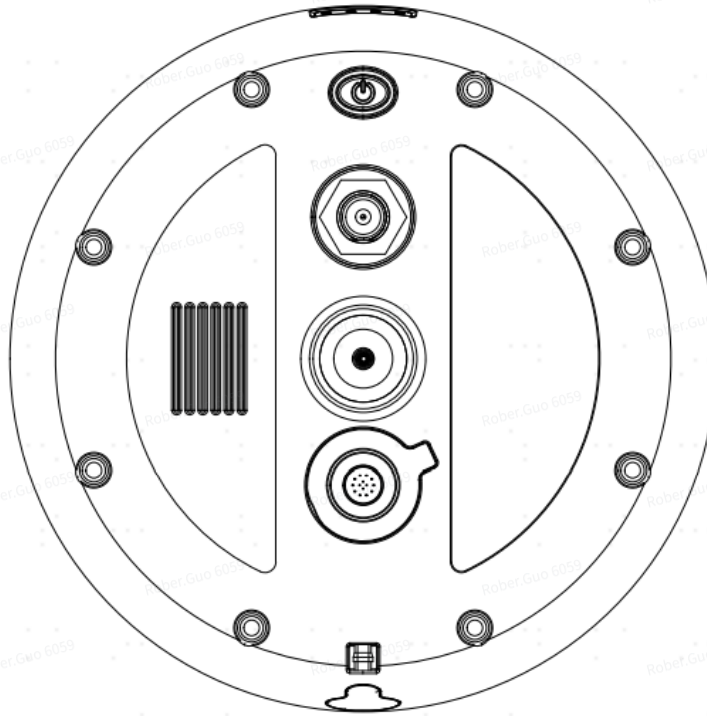
	Lawn Mower Blade Indicator
3	Charge Button
4	Confirm Button
5	Mowing Button
6	Digital Display
7	Emergency Stop Button
8	Anti-collision strip
9	Light strip
10	Binocular Camera
11	Monocular Camera
12	Charging Interface
13	SIM card slot
14	Swivel Caster
15	Cutting Blade
16	Cutting Disc
17	Battery Compartment
18	Drive wheel
19	Power Switch

5.2 Charging Station



Number	Component Name
20	Top Button
21	Status Indicator: Solid Green: Powered on and paired. Orange: Not paired, or the lawn mower is not powered on. Green 10HZ fast flash: Initializing during startup Green 3-second flash: Direct charging mode Green 1-second flash: Bluetooth protocol charging mode, output controlled by the vehicle
22	Charging Interface
23	Charging electrode
24	Power Supply
25	Power Adapter <u>(Must be placed indoors)</u>

5.3 Base Station



Serial Number	Name		Description
4	Indicator	Power Supply (Green)	Green: The base station remains constantly lit green after power-on.
		Data (Green)	Pure green: The base station does not transmit differential data.

		Green Flashing: Differential data is being transmitted, and the indicator light flashes at the transmission frequency.
	Satellite (red and green)	Green blinking: Fixed solution, RTCM stream is being transmitted; Red Flashing: Satellite Search Abnormal
	Wireless Bluetooth Indicator Light	Blue Extinguish: ESP Communication Timeout Constant bright blue: ESP is working properly

5.4 ProductSpecifications

Module	Functional Operation	Data for May 2025
Overall Machine Parameters	Water and dust protection rating	Vehicle body IPX5, base station IP67, charging pile IP65
	Recommend ed operating temperature	0~45℃
	Long-term storage temperature	0~25℃
	Cutter adjustment range	20mm-60mm
	Cutting disc width	260mm
	Battery Pack Capacity	190Wh
	Battery Pack Voltage	16.8V
	Charging Time	2h

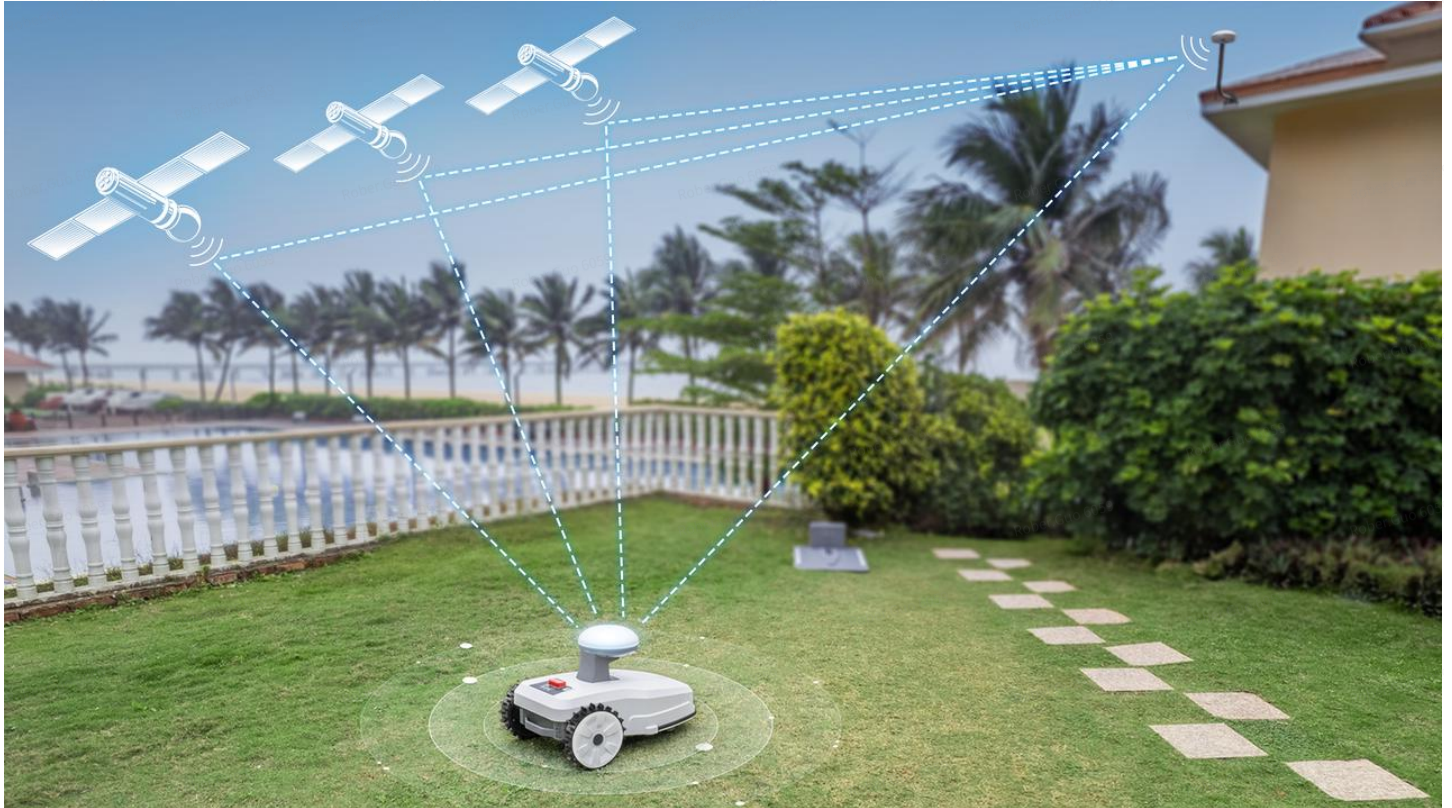
	Three-speed walking	Maximum 0.5 m/s.
	Three-speed settings for the cutter	1st gear; 2nd gear; 3rd gear;
Functional Parameters		
	Supports Wi-Fi and BT	Support
	Supports 4G communication	Support
	Supports satellite positioning communication	Support
	Network RTK	Support
	raindrop	Support
	Lift	Support
	Tilt	Support
	Collision	Support, Front Collision
	Camera	Supports 1-channel monocular and 1-channel binocular cameras
	OTA Upgrade	Support
	Working Area	A single plot should not exceed 4,000 square meters
	Visual Fusion	Supports under-tree visual fusion technology to address RTK occlusion
	Work Area	Supports multi-plot, multi-no-go zone management, and automatic recharging
	Working Angle	Supports changes in planning perspective

6. 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.

6.1 Install the base station RTK antenna

To optimize the performance of the RTK system, the RTK antenna must be located in an open area for receiving satellite signals. You can install the RTK reference station on 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 fields, we recommend placing the RTK antenna on a wall or roof to improve stability and coverage.



6.1.1 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] accessory. You can check the detailed instructions below.

Location Selection Requirements

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

1. Choose a location where there are no nearby trees or electric towers. Also, place your RTK antenna and tripod in an open field and on terrain as high as possible;
2. Select land with compact soil to ensure the position remains stable after installation;
3. The position is not affected by collisions with operating machinery;
4. Choose a location that is easy to find.

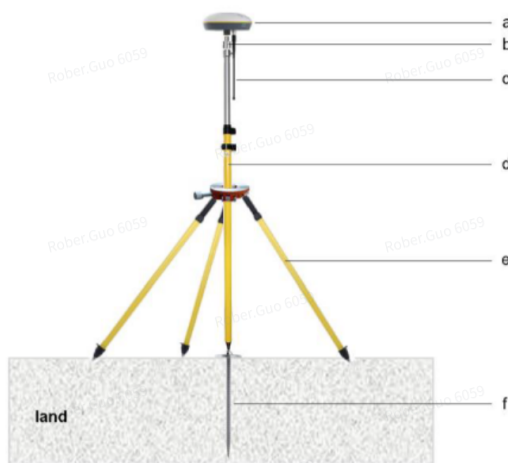
Installation Guide

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

- On the selected plot, bury the reference station measurement stake into the ground and compact it; ensure the top of the marker pin is flush with the ground; mark the position of the marker pin for easy reuse next time.
- Remove the receiver, antenna adapter, and radio antenna. Then connect the radio antenna of the receiver to the antenna adapter. The receiver needs to be installed on the center pole of the tripod; then turn it on.
- Place the bottom of the tripod center pole on the marking pin, step on the three legs of the tripod firmly to adjust them; adjust the lengths of the three legs to center the horizontal bubble above the tripod.
- Set the middle pole of the tripod to an appropriate height: 1.5 - 1.7 meters (ensure the same height is set each time)
- Configure the coordinates of the starting reference station through the software app and record the starting coordinate values of the current position.
- Start your mowing task.

2. Secondary operation:

First, find the marker pin point of the first operation, repeat steps b and c, then start the receiver of the reference station using the coordinate values from the first startup, and begin the operation.



- | | |
|-------------------------------|------------------|
| a V1 receiver | d Alignment pole |
| b Adaptor with 5/8-inch screw | e Tripod |
| c Radio antenna | f Marking pin |

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

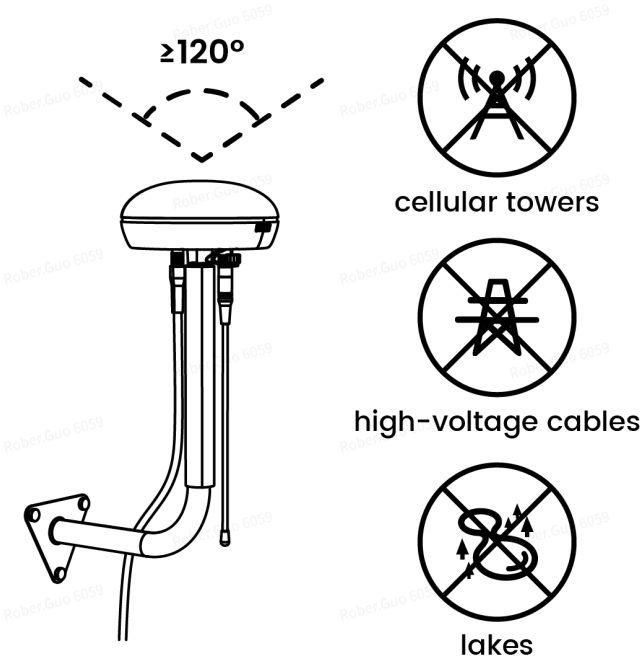
- Remove the receiver and turn it off; remove the radio antenna and antenna adapter;
- Fold the tripod;

6.1.2 Install RTK antenna on the wall/roof

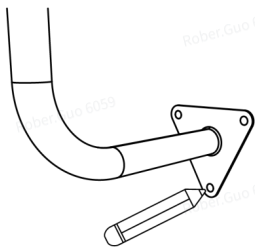
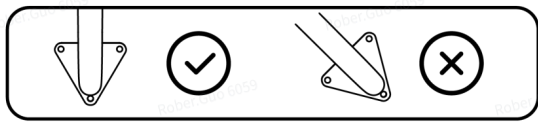
1. RTK antennas should be installed in open areas such as rooftops or walls.
2. Ensure an unobstructed sky within a 120° angle.



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



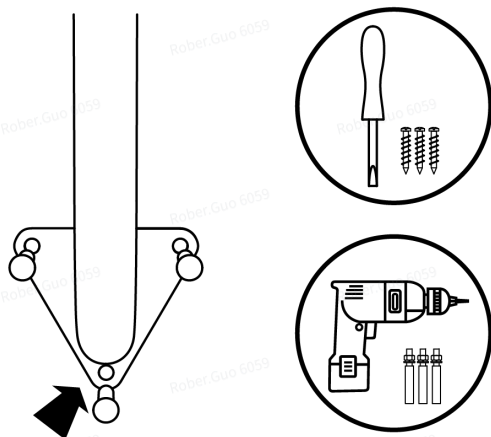
4. Mark the installation position of the curved mounting rod on the wall.
5. The mounting pole must be positioned vertically upward.



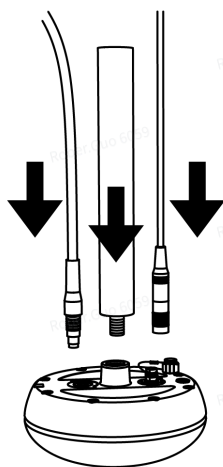
6. Select appropriate screws based on the wall material and drill holes at the marked positions.

7. For wooden walls: Use M6 screws and a screwdriver.

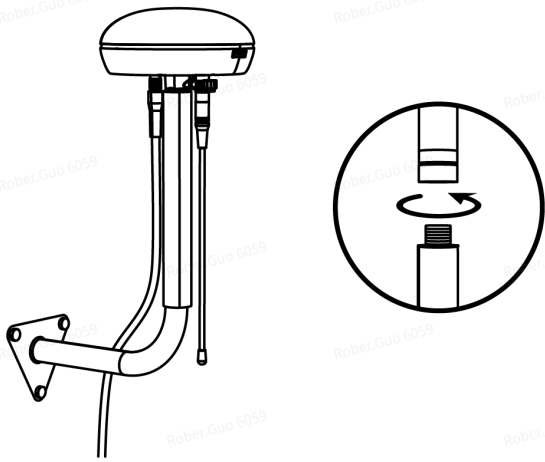
For concrete walls: Use M8 expansion bolts and power tools (self-provided).



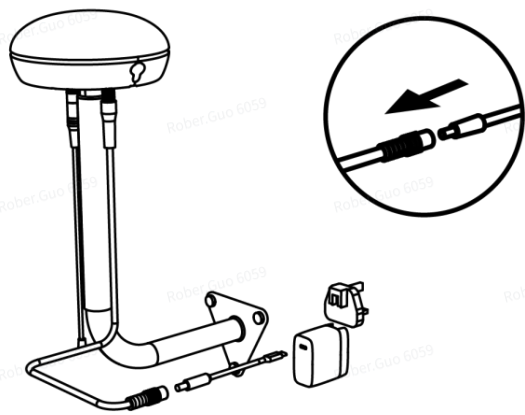
8. Install a direct hanging pole, RF antenna, and power cord (5m) on the RTK base station.



9. Securely fasten the two mounting rods.

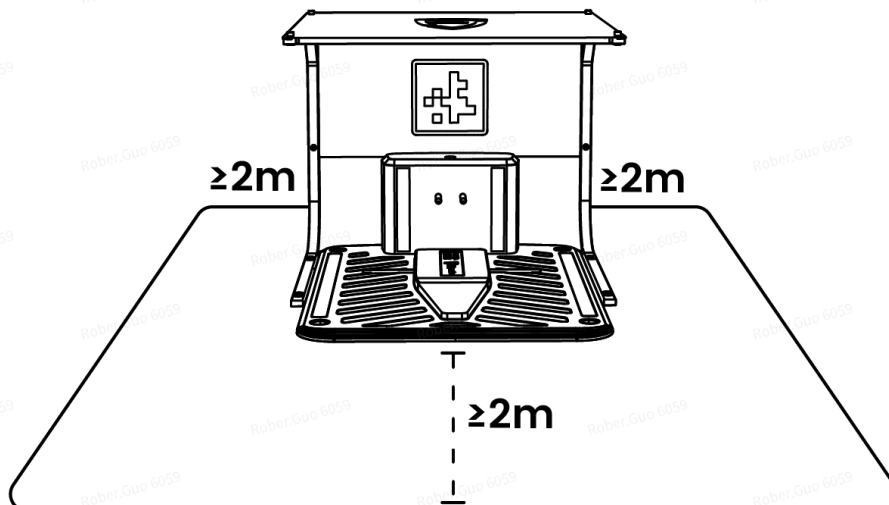


10. Insert the DC USB-C cable, adapter, and power adapter plug into a power outlet to activate the RTK base station.

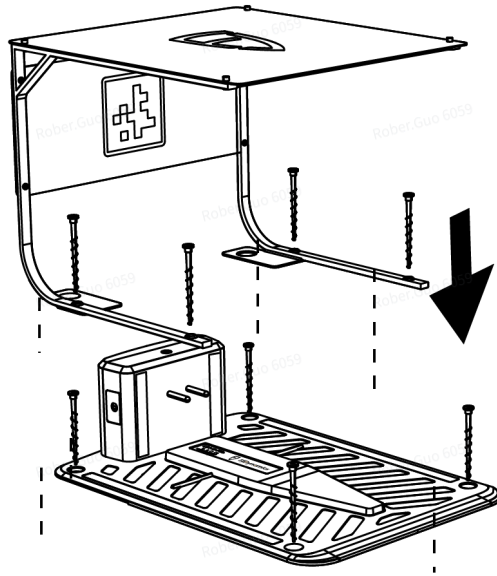


7. Install the lawn mower and charging station

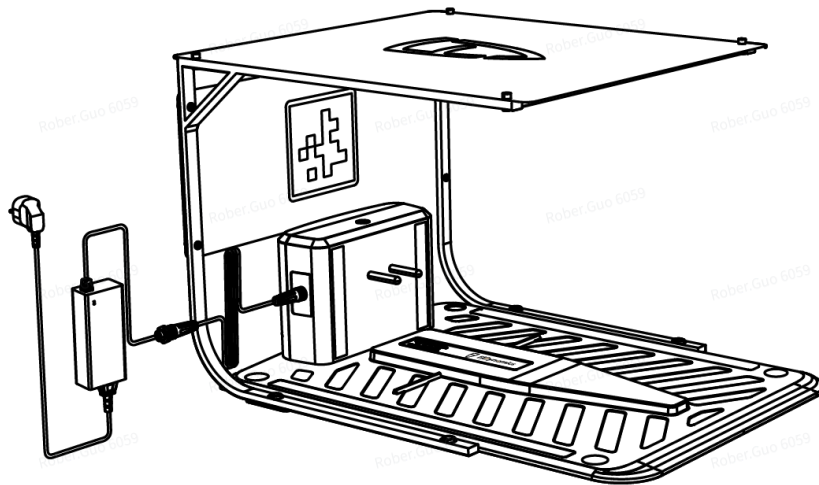
1. Choose a flat area to place the charging station. Ensure that the horizontal area at least 2 meters in front of the charging station is open, free of obstacles, hills, slopes, depressions, potholes, or any other obstructions.
2. Ensure that the grass height below the charging station panel does not exceed 5 centimeters (approximately 2 inches), and there are no obstructions around it.



3. Secure the charging station and garage to the ground with bolts.



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



5. Docking Automatic Lawn Mower

After the charging pile and RTK antenna are deployed, take out the lawn mowing robot and follow the steps below to dock it with the charging pile:

- Press the button on the charging dock, ensuring that the indicator light turns green and flashes rapidly, indicating that it has entered direct charging mode.
- Connect the automatic lawn mower to the charging station and wait for it to power on.
- After powering on the automatic lawn mower, turn on its switch.

8. Instructions for Use

8.1 Preparation

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

8.2 Download the application

FJDynamics is specifically designed for use with the application. Please download the application first. You can obtain the iOS application by scanning the QR code below or searching for {FJD Landscaping} in the Android or App Store.



8.3 Register for a FJDynamics account and log in

If you already have an FJDynamics account, please refer to the login only.

8.3.1 Register and Log In

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

8.3.1.1 Register using email

1. Click to register now.
2. Enter your email address.
3. Click the Send Verification Code button, and the verification email will be sent to your email address (if you don't receive it, 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 obtain a new verification email).
5. Set a password (the password must be between 8 and 22 characters long and contain at least lowercase letters and numbers).
6. View User Agreement and Privacy Policy.
7. Click to complete registration and login.

9:41

<

REGISTER

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

Enter Email Address

Enter Password

Enter Verification Code Send

Create Account

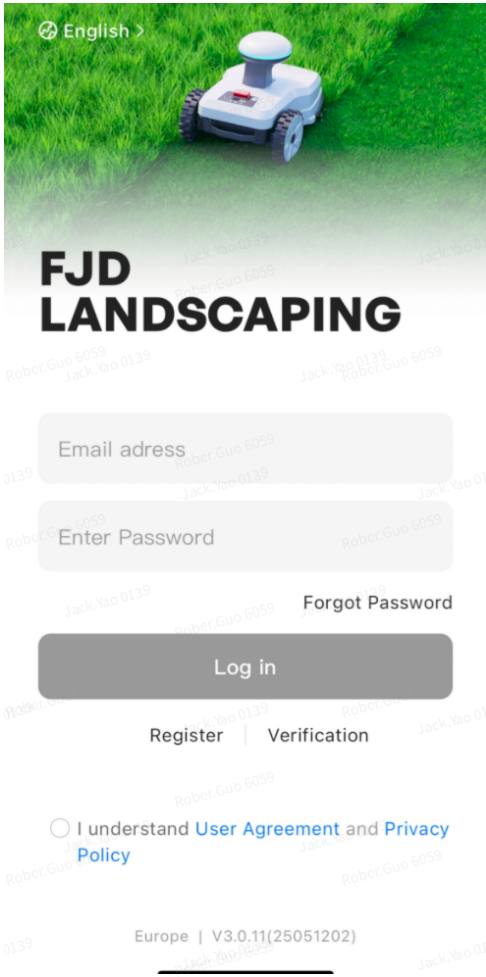
☐ I've read and agreed to [User Agreement](#) and [Privacy Policy](#)

Europe | V0.4.4 (24080101)

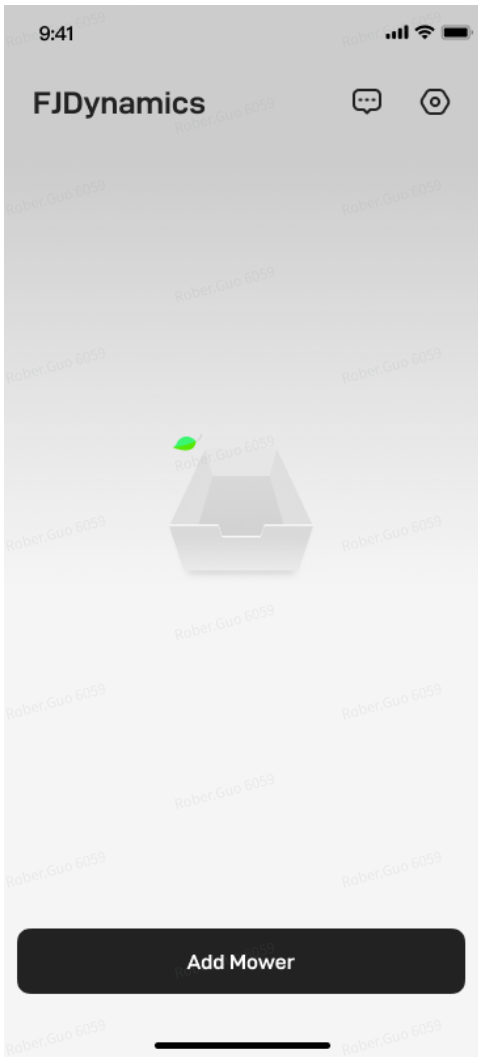
8.3.2 Login Only

You can log in directly by entering your username (i.e., email) + password, or username (i.e., email) + verification code. Then, review the User Agreement and Privacy Policy, and click "Log In" to access the main interface of the system.

To switch the app language, please click on the top left corner of the login page.



8.4 Facility Management

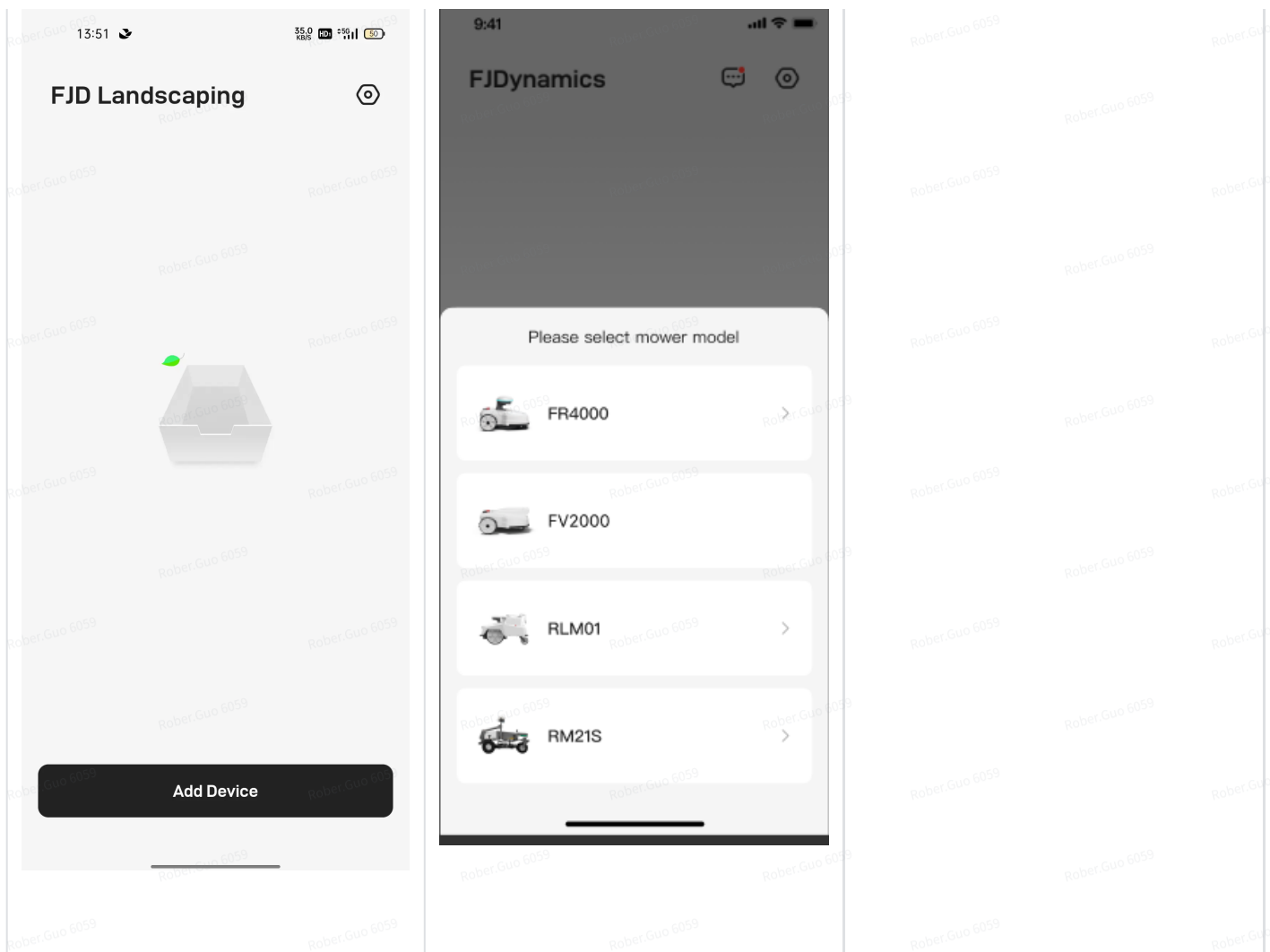


8.5 Add FR4000 Lawn Mowing Robot

!	Note: To ensure the normal operation of Bluetooth functionality, please ensure that Bluetooth is enabled on your phone and that the distance between your phone and the lawn mowing robot is less than 3m.
---	--

1. Click the "+ Add Device" button.
2. Select "FR4000" from the options.
3. Complete the robot setup according to the instructions.

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8.5.1 Connect the lawn mowing robot to the network



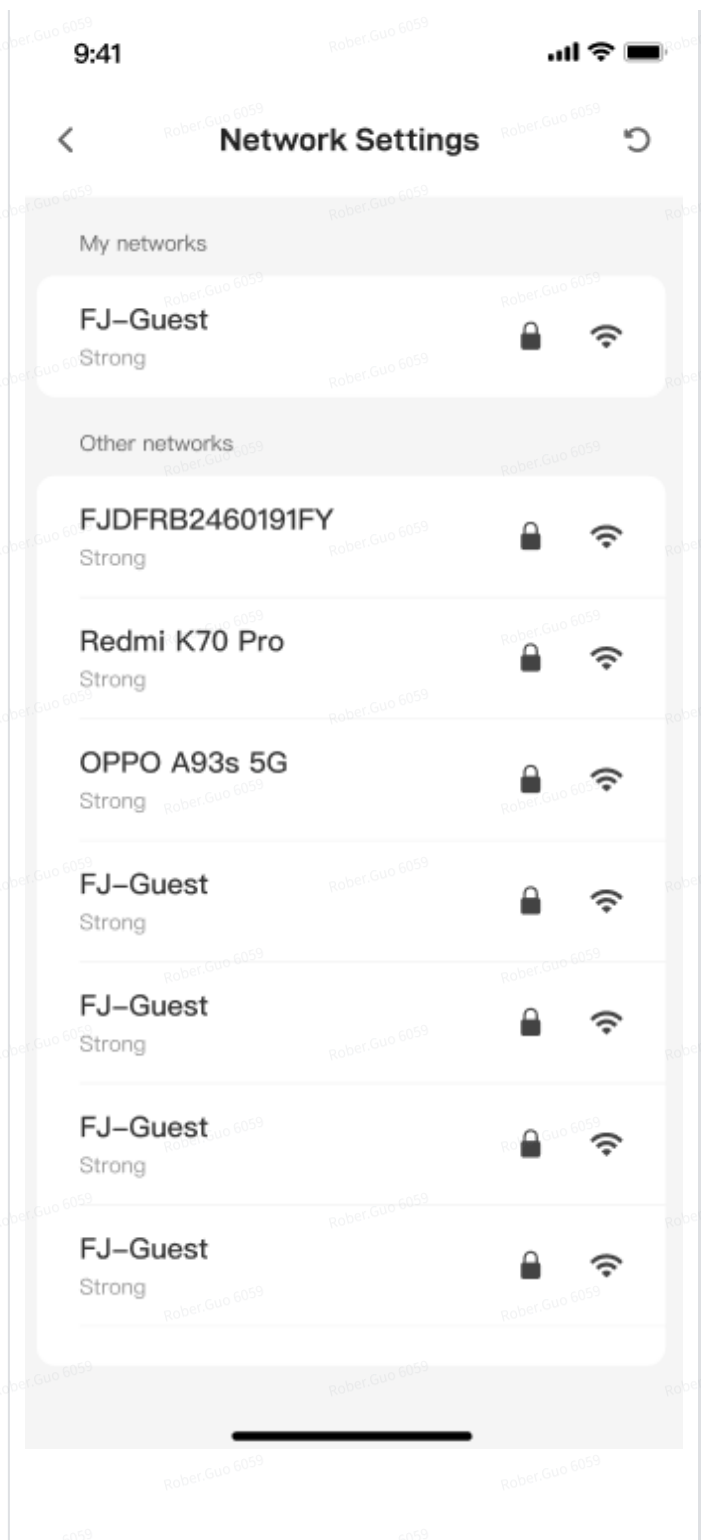
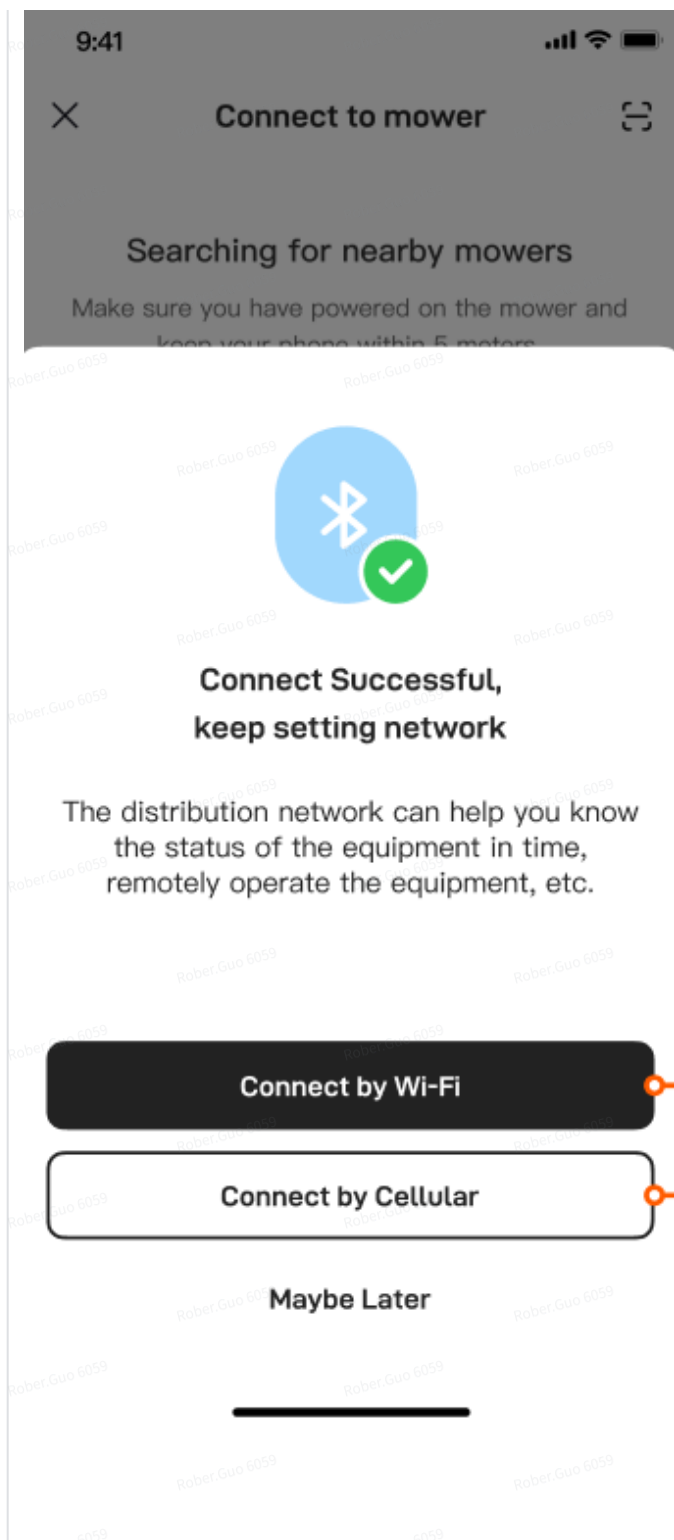
Note:

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

If you are using an 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, then connect the lawn mower to the same Wi-Fi network.

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

- Enter or select the Wi-Fi network name.
- Enter the Wi-Fi password.
- Click Done.



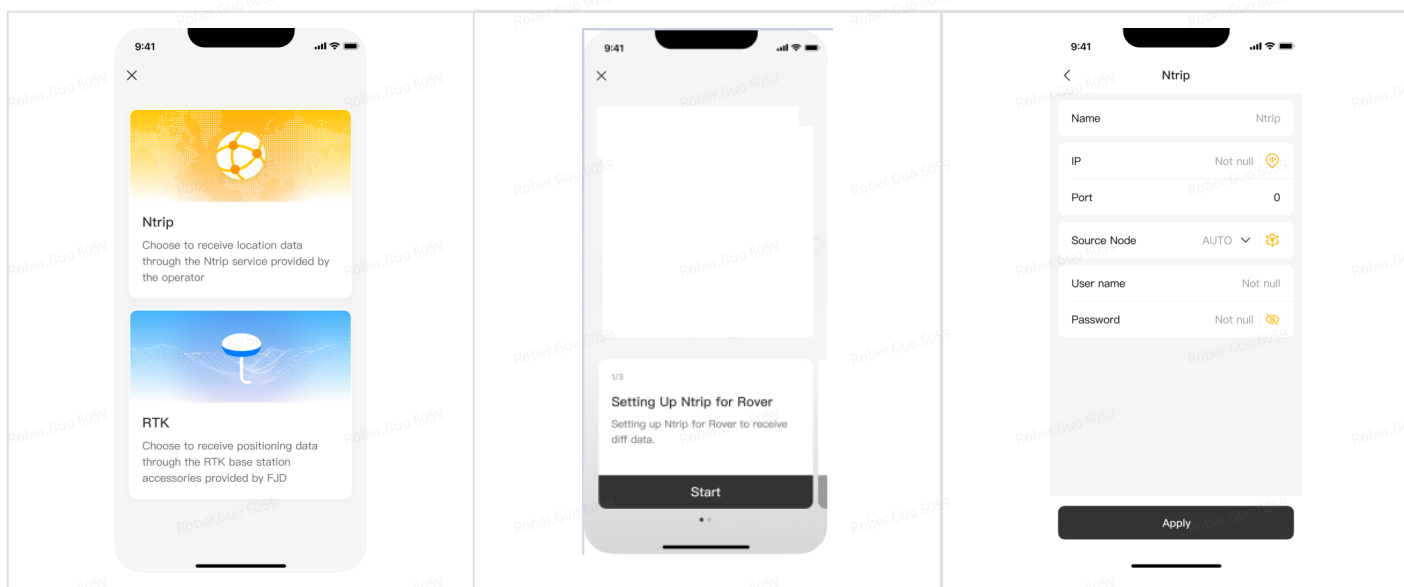
8.5.2 Deploy RTK Lawn Mower

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

8.5.2.1 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.

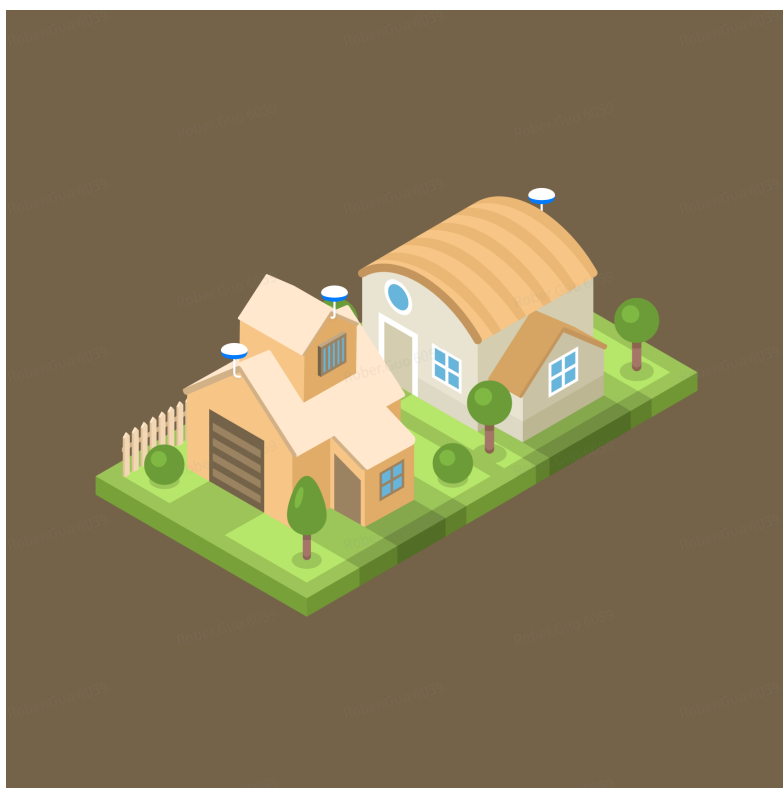
4. Wait for the completion of base station function deployment.



8.5.2.2 Deploy a local RTK base station

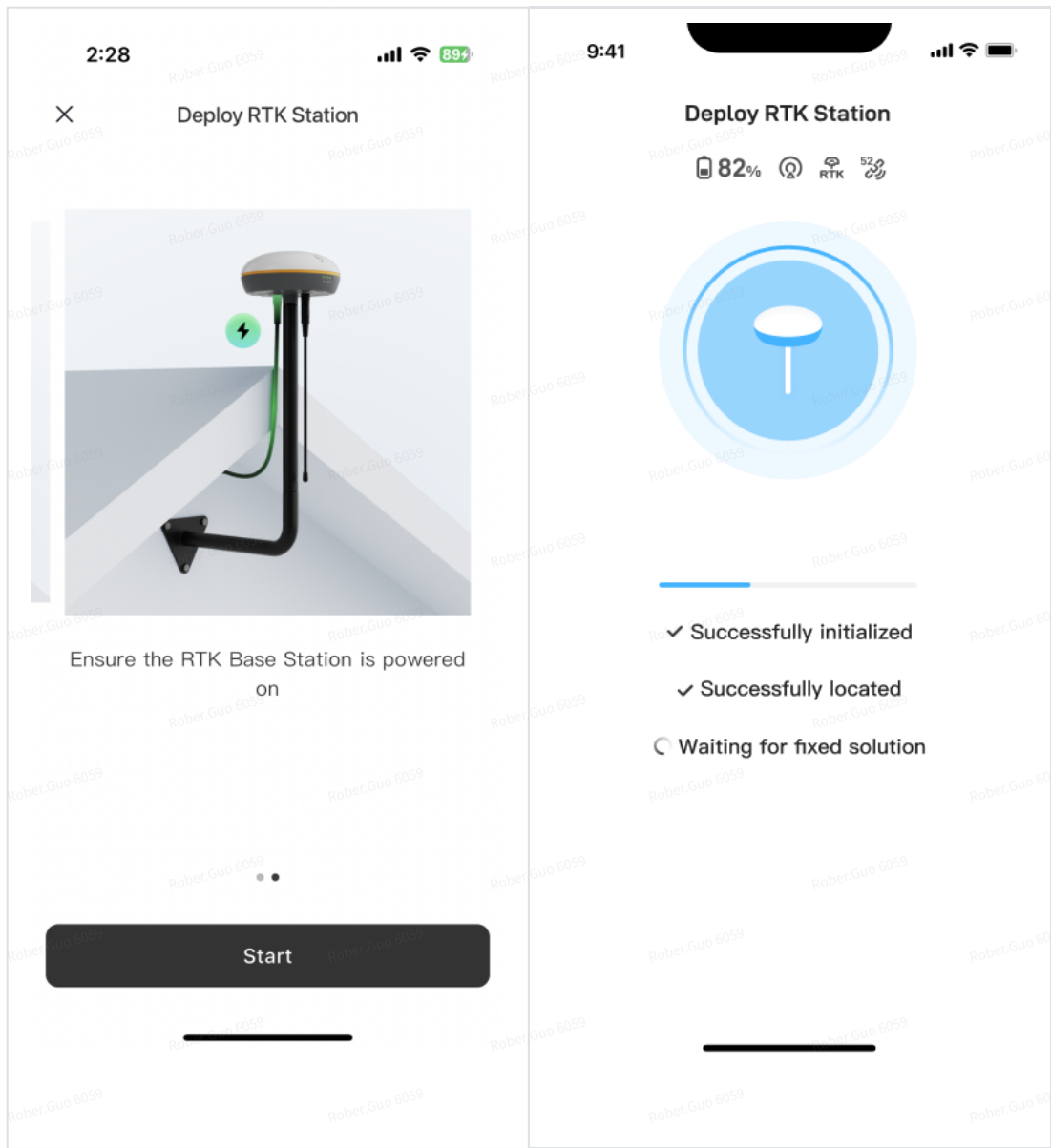
Ensure that the RTK base station is installed, fixed, and powered on , ensure that the mobile phone is connected to the lawn mowing robot via Bluetooth.

1. Select a base station site.



2. After confirming that the preparation steps have been completed, click Start.
3. Wait for the completion of base station function deployment.

*If you want to change the location of the base station during use, you need to redeploy the RTK base station in the Accessories - Base Station section. When redeploying the RTK base station, existing map information will be deleted first. Please make a backup before deletion.



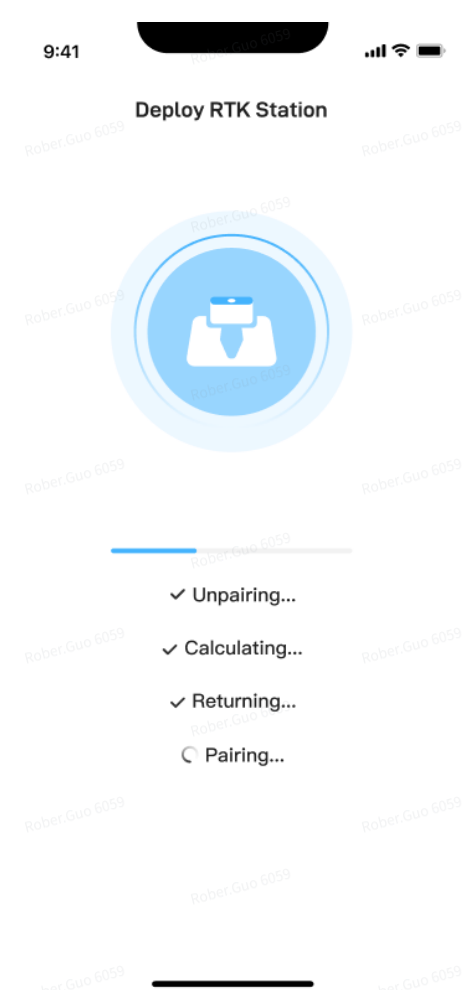
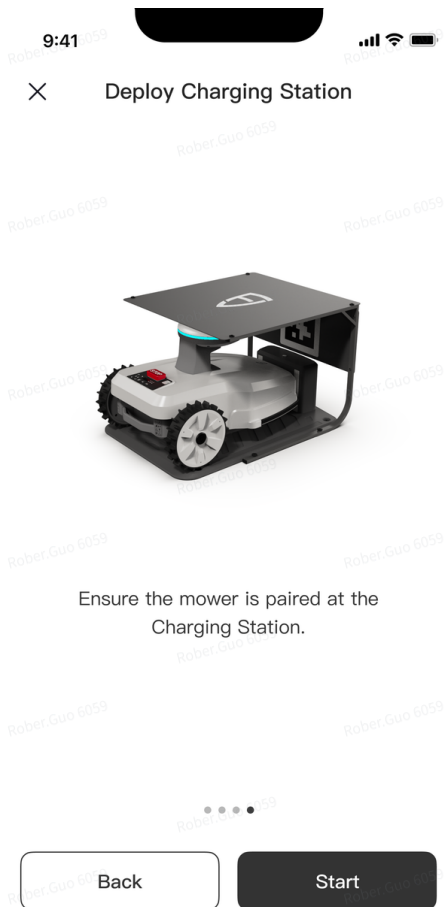
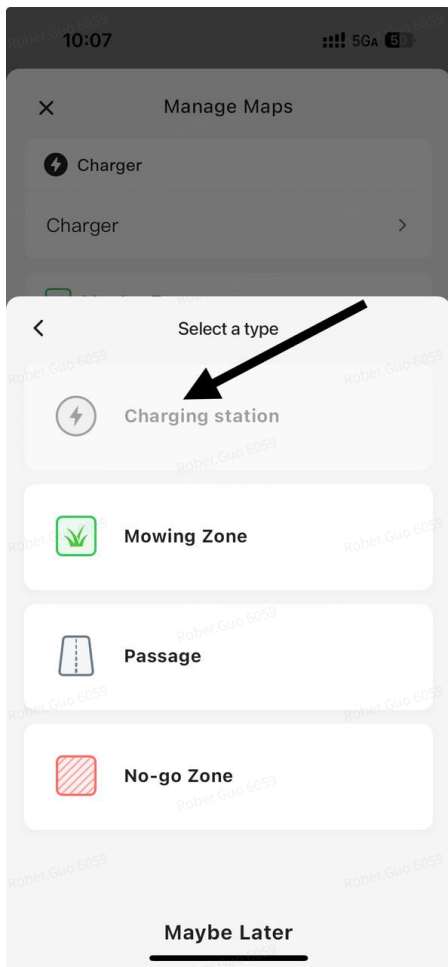
8.5.2.3 Deploy charging stations

Ensure that the RTK base station has been installed and powered on, and the base station site configuration has been completed.

Ensure that the mobile phone is connected to the automatic lawn mower 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 charging (the vehicle is considered detected at the charging pile when it is charging)
3. After confirming that the preparation steps are completed, click "Deploy Charging Station".
4. Wait for the deployment of the charging pile function to complete.

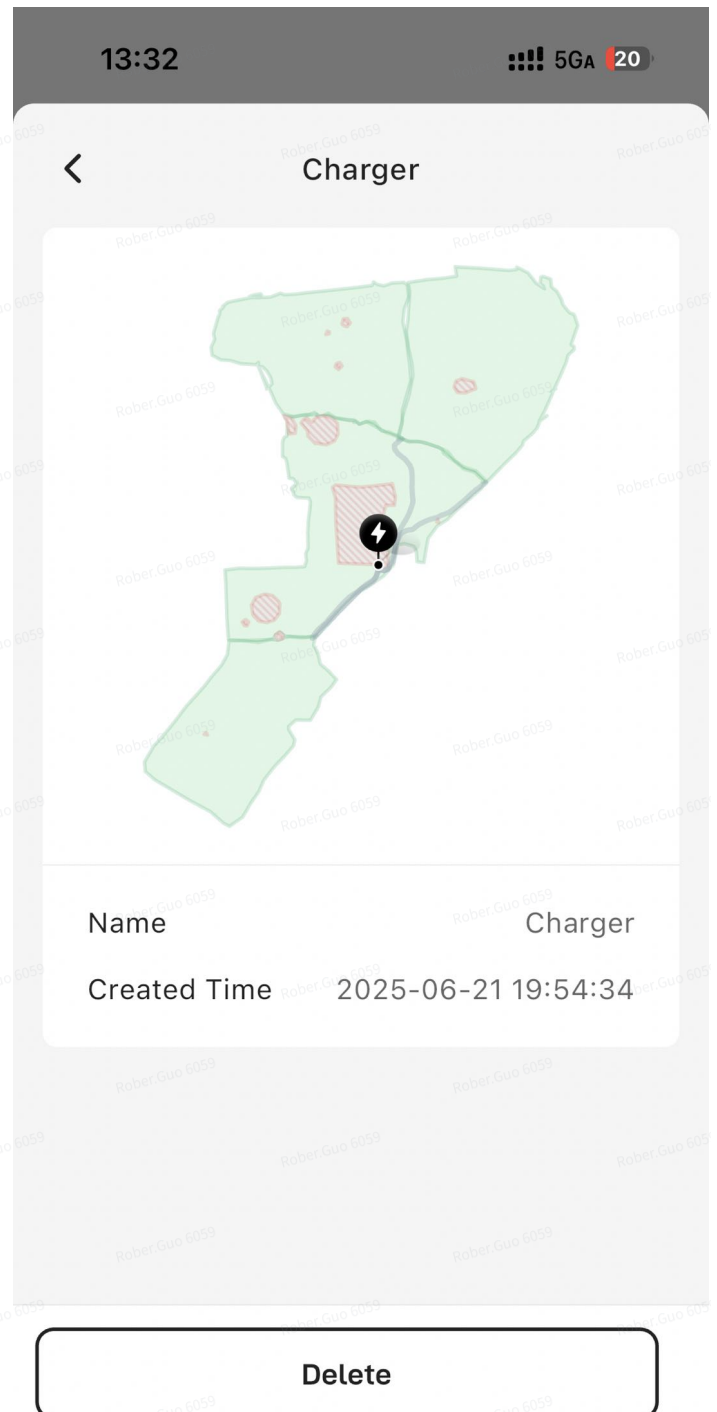
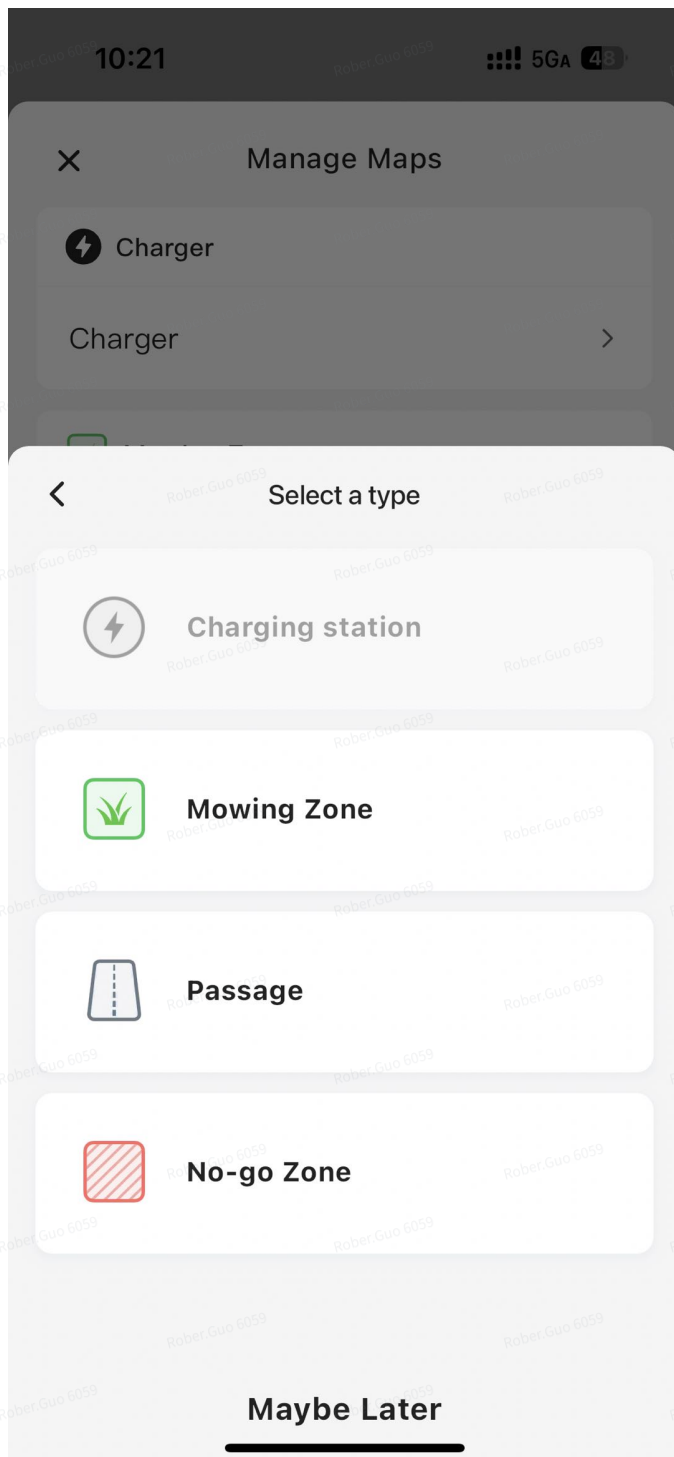


8.5.2.4 Replace charging station

- If the user's charging pile is damaged and needs to be replaced, they can choose to switch the charging pile by scanning the QR code or entering the SN through app ---> Accessories ---> Charging Pile.

8.5.2.5 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 corridor connecting the plot.

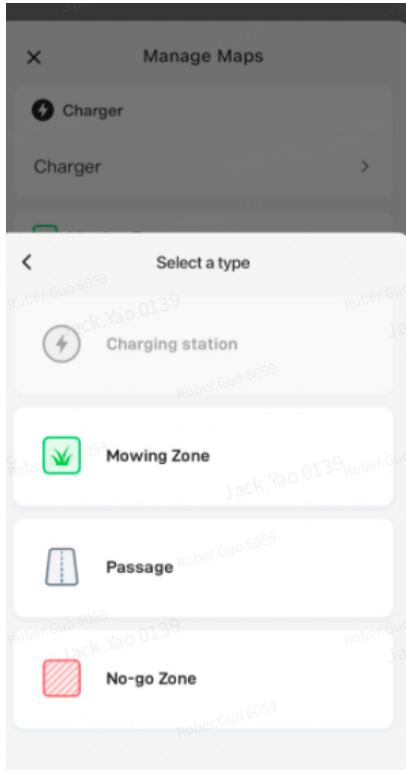


8.5.2.6 Map Management

- Current map element types

1. Charging pile
2. Connecting line
3. Plot
4. Restricted Area

The creation of these four elements does not require a specific order, and they can be combined or supplemented later.



Note:

1. There must be a connecting line between the plot and the charging pile to form a closed loop; 2. The charging pile must have a connecting corridor to connect to at least one plot, even if the charging pile is already within the plot.

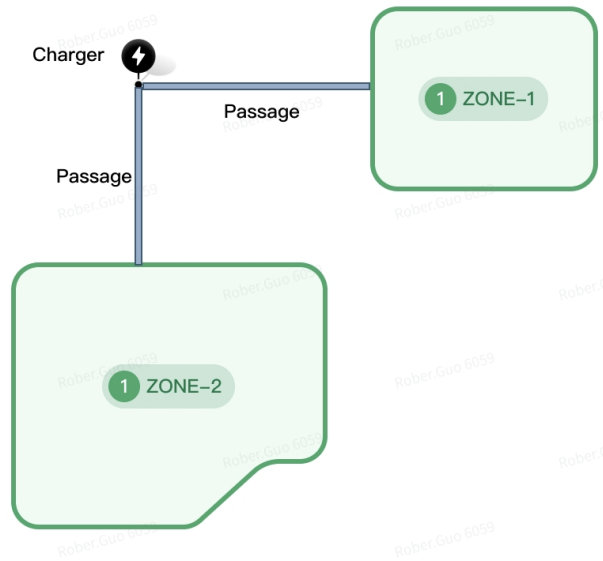
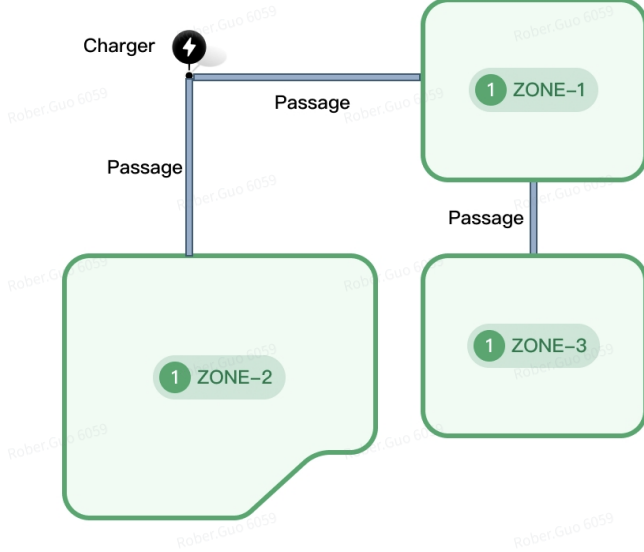
3. The creation sequence of a full-element map is: create charging piles --- create plots --- create connection lines --- create restricted areas.

- **Tasks for multiple plots.**

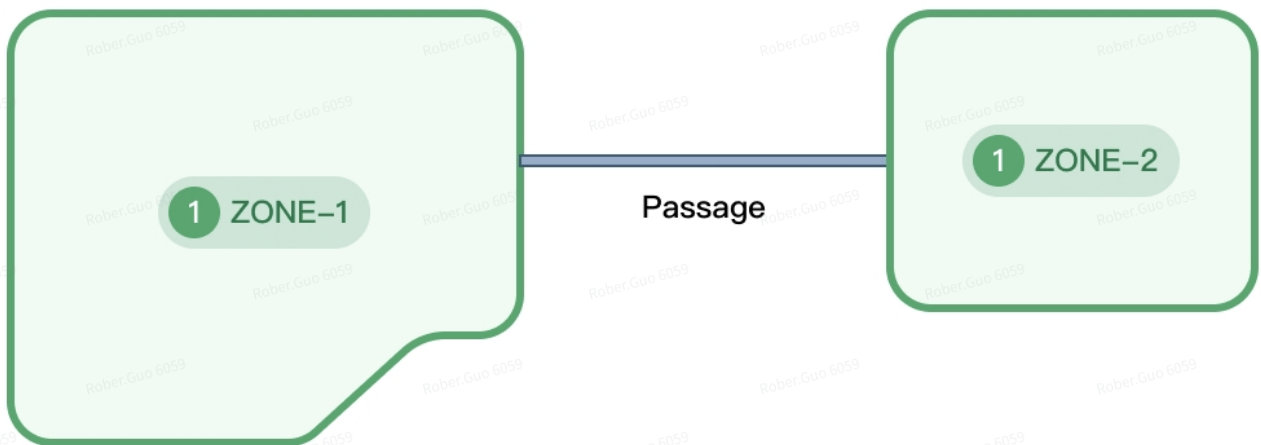
For example:

Charging pile --- Connecting line 1 --- Plot 1

Charging pile --- Connecting line 1 --- Plot 1 --- Connecting line 2 --- Plot 2



- **Single plot task.** This plot may not have charging piles or connection lines, but the vehicle must start from within the plot and return to the starting point of the plot at the end of the task. It will not return to the charging pile



- **What if the path planning fails?**

- Check for isolated land parcels
- Check if the charging pile has created a corridor connected to one of the plots
- Have all the plots been connected to the charging area via the corridor to form a complete path?

8.5.2.7 Build Plot Workspace

1. Before creating a map, there are a few points to note:

- Before creating the map, clean up debris, leaf piles, toys, wires, stones, and other obstacles on the lawn. Ensure that there are no children or animals on the lawn.
- Ensure that the automatic lawn mower is in good condition and that 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 maintain a distance within 3 meters to ensure a good Bluetooth connection and handle on-site situations in a timely manner
- Draw a line along the edge of the lawn.
- Boundaries should not be created at the edges of pools and lakes, especially on slopes along the water where boundary creation is prohibited

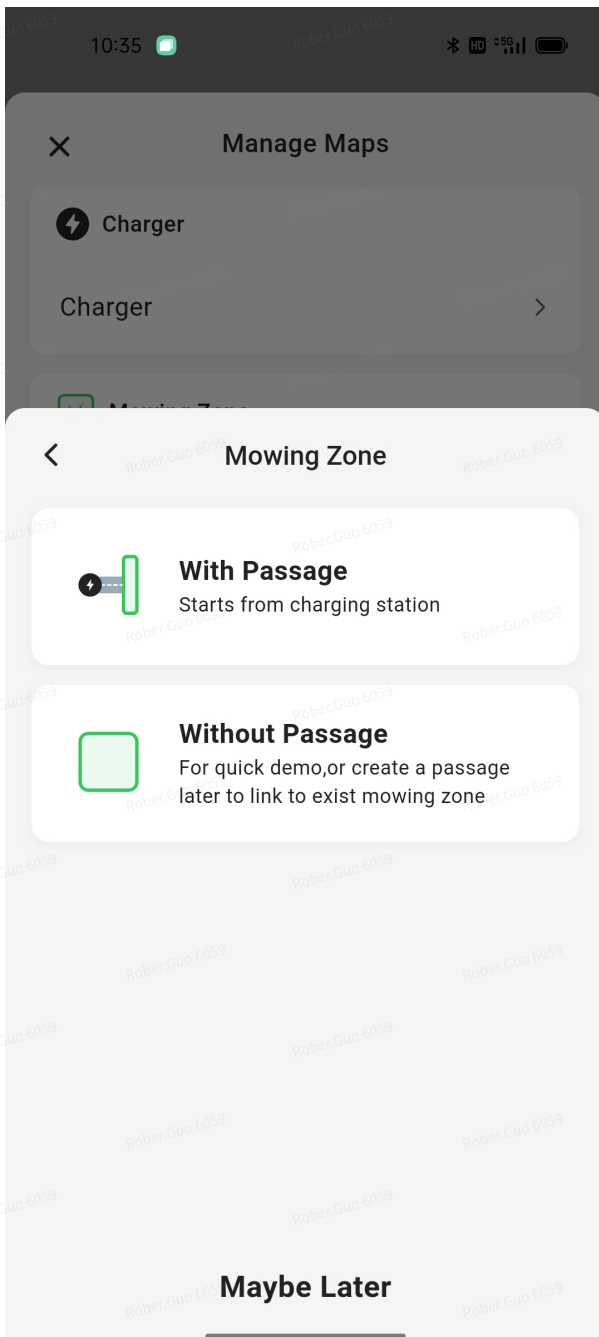
2. There are two types of plots

a. A. Zone without passage

- i. This plot is an independent one without a connecting corridor, and subsequent addition of connection lines is required to connect to charging piles or other plots.

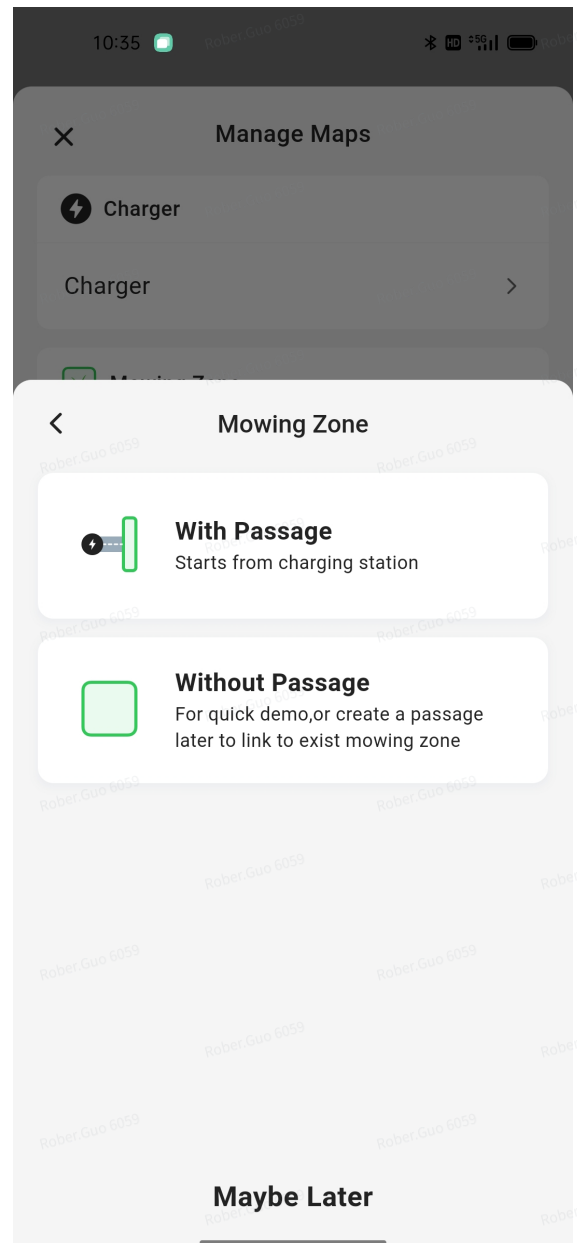
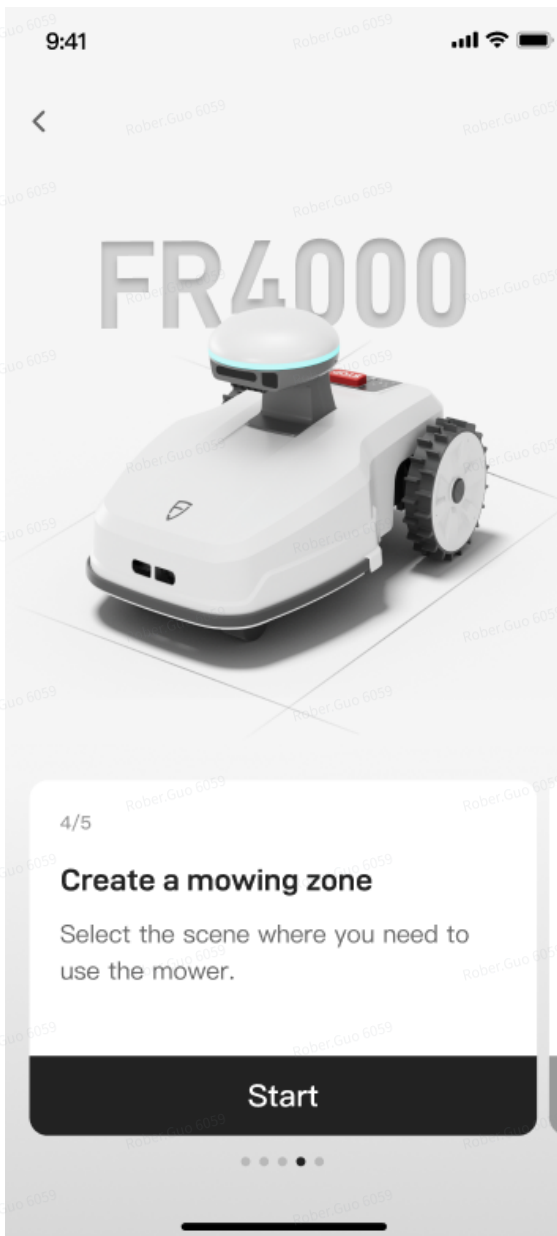
b. B. Zone with passage

- i. This plot creates a connection line from the charging pile and goes to another plot
- ii. A process completes the establishment of both connection lines and land parcels



3. How to create with passage zone

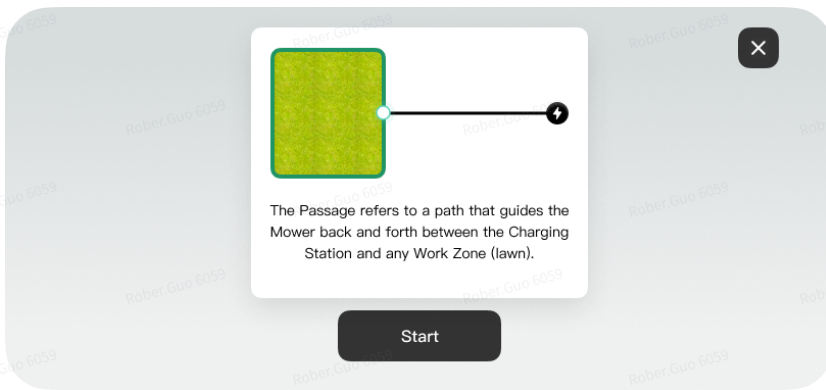
a. Select with passage mowing zone



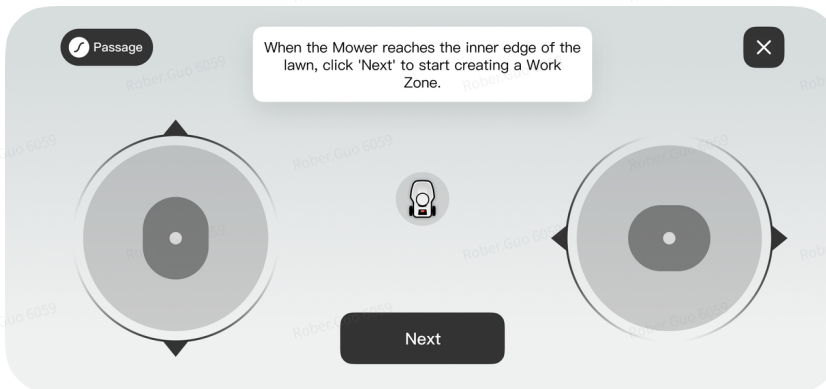
- b. The automatic lawn mower will automatically leave the charging station.



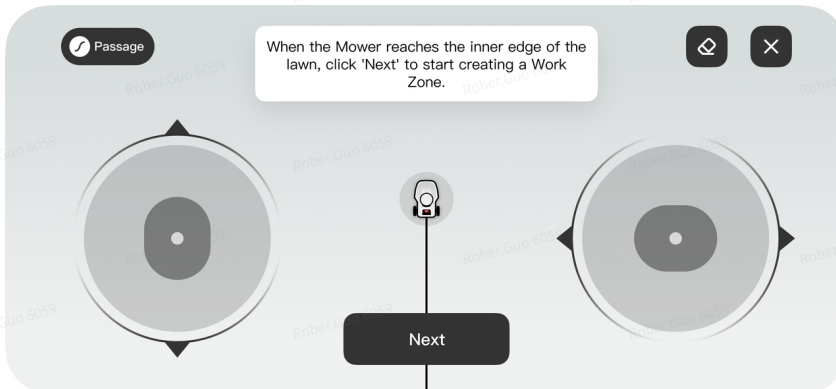
- c. After the robotic lawn mower stops, you can create a path through the application.
- The channel refers to the path that the automatic lawn mower takes from the charging station to the working area. In actual operation, this path will be followed to ensure it is a drivable route.



- Click "Start" and use the joystick to remotely control the lawn mowing robot to the edge of the expected working area.

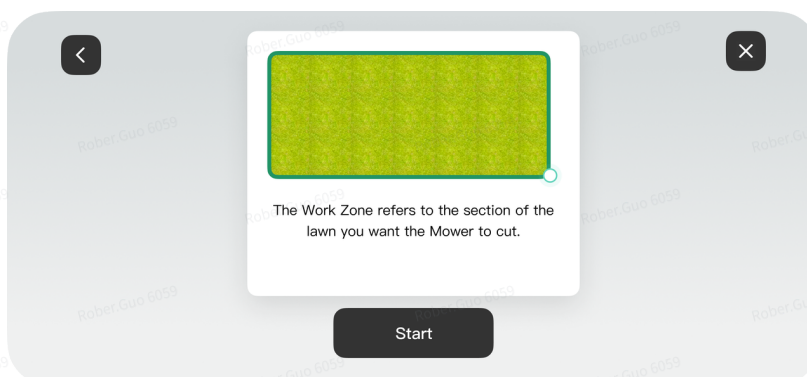


- Click Next to save the channel and continue creating the mowing area.

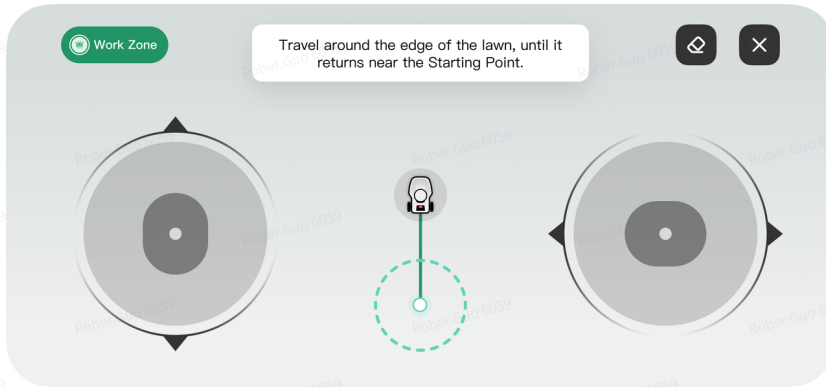


d. After saving the path, you can create a mowing area through the application.

- Click the start button, then use the joystick to remotely control the robotic lawn mower along the desired lawn edge to draw the lawn boundary.



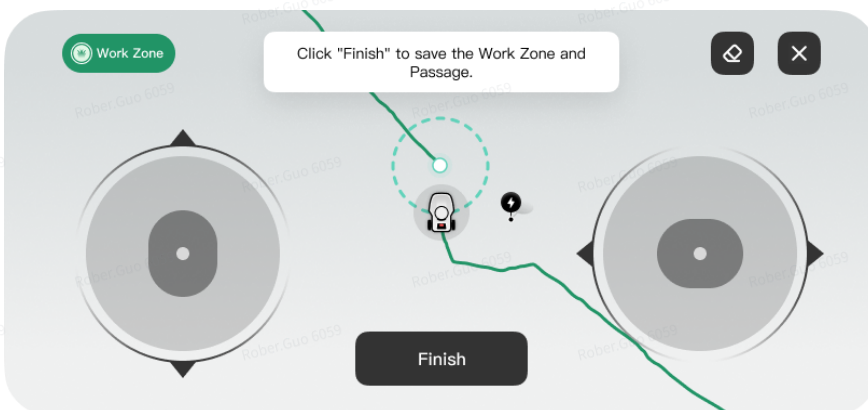
- The solid line represents the boundary you've drawn, while the dashed line will help guide you back to the starting point.



- 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 lawn mowing robot will backtrack along the drawn path to erase the boundary of the redrawn mowing area.



- Control the lawn mowing robot to return to the starting point, then click the "Finish" button to save the working area.



- Name the workspace.

4. How to create a without passage zone

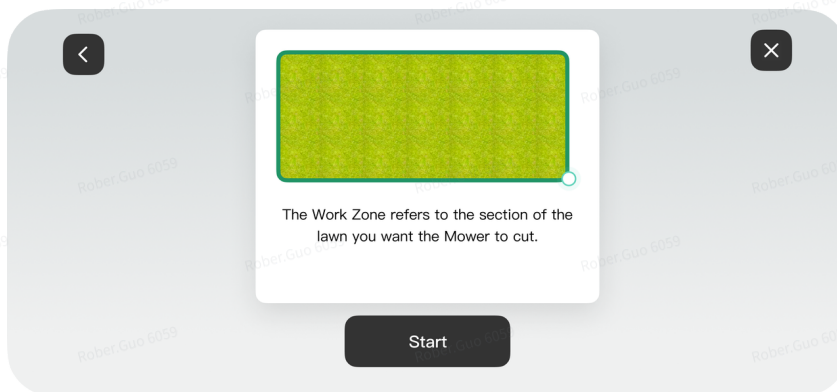
a. Select without passage

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

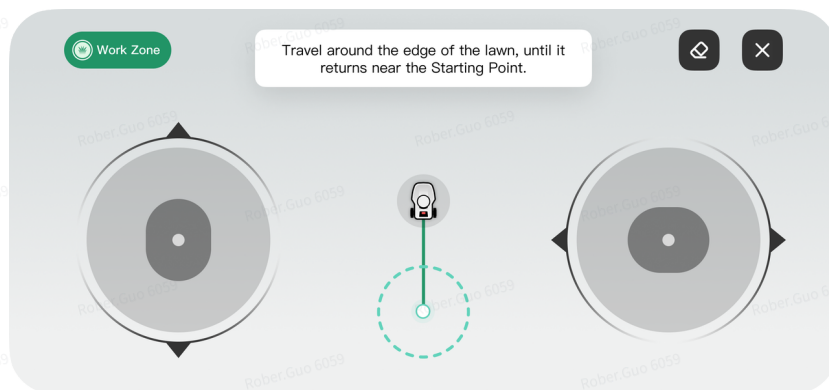


c. Establish the mowing area through the application.

- Click the start button, then use the joystick to remotely control the robotic lawn mower along the desired lawn edge to draw the lawn boundary.



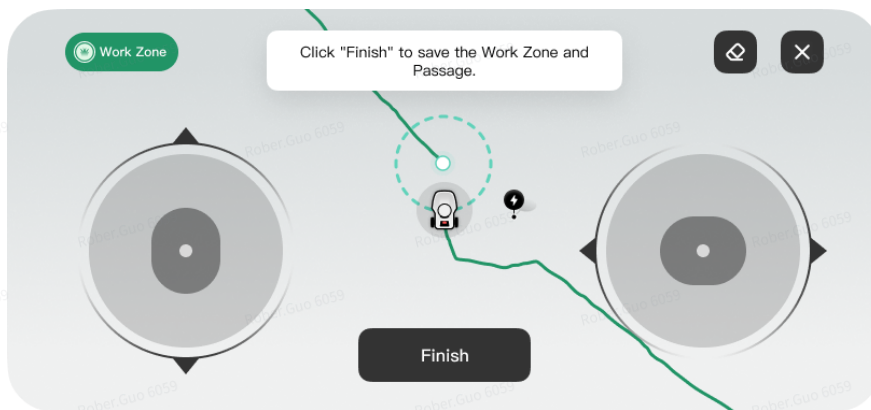
- The solid line represents the boundary you've drawn, while the dashed line will help guide you back to the starting point.



- 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 lawn mowing robot will backtrack along the drawn path to erase the boundary of the redrawn mowing area.



- Control the lawn mowing robot to return to the starting point, then click the "Finish" button to save the working area.



- Name the workspace.

8.5.2.8 Constructed Forbidden Zone

Restricted areas include regions such as swimming pools, flower beds, trees, tree roots, ditches, and any other obstacles on the lawn. The automatic lawn mower will avoid mowing within these designated areas.

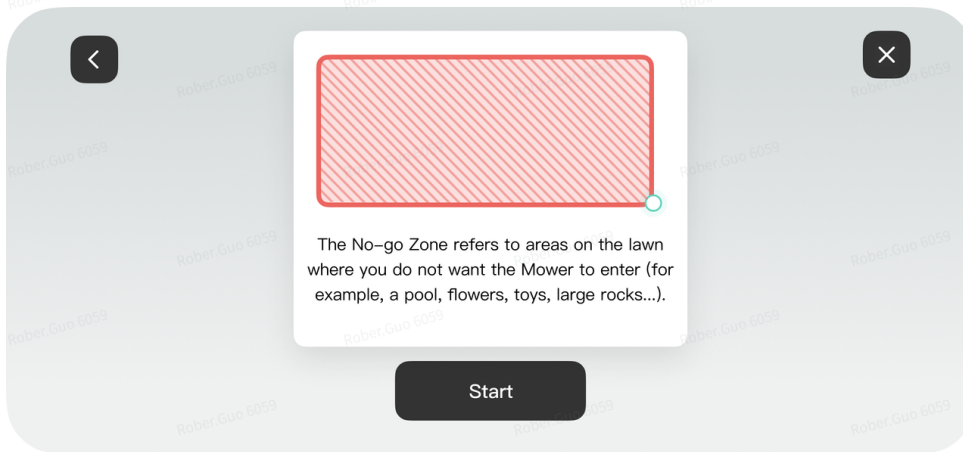
Areas where it is recommended to create restricted zones:

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

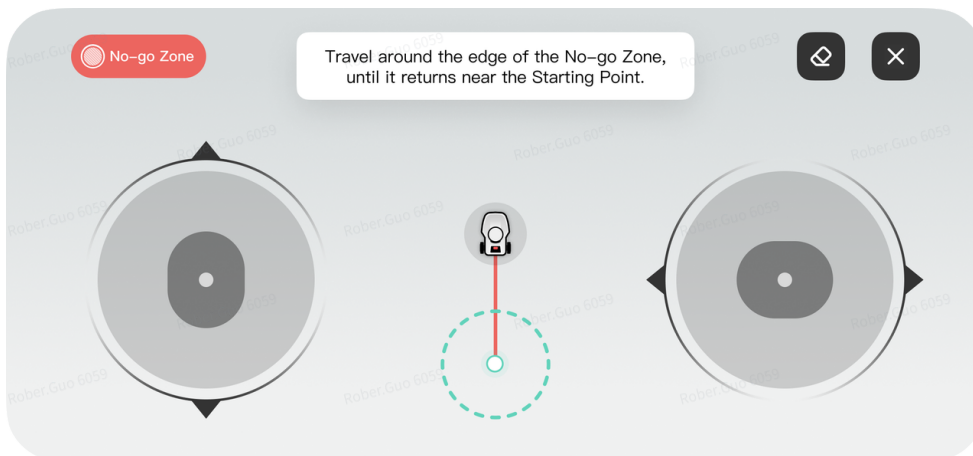
Creation Steps:

1. Ensure that the automatic lawn mower is powered on, located at the charging station, in normal working condition, has a fixed solution, the emergency stop button is off, and the battery level is above 50%.
2. Click the + button on the map management page.

- Click on "No-Go Zone" to remotely control the lawn mowing robot via the application to draw the no-go zone.
- Use the application to guide the automatic lawn mower to the edge of the designated restricted area.
- Click the start button, then use the joystick to remotely control the lawn mowing robot to draw the boundary of the restricted area.

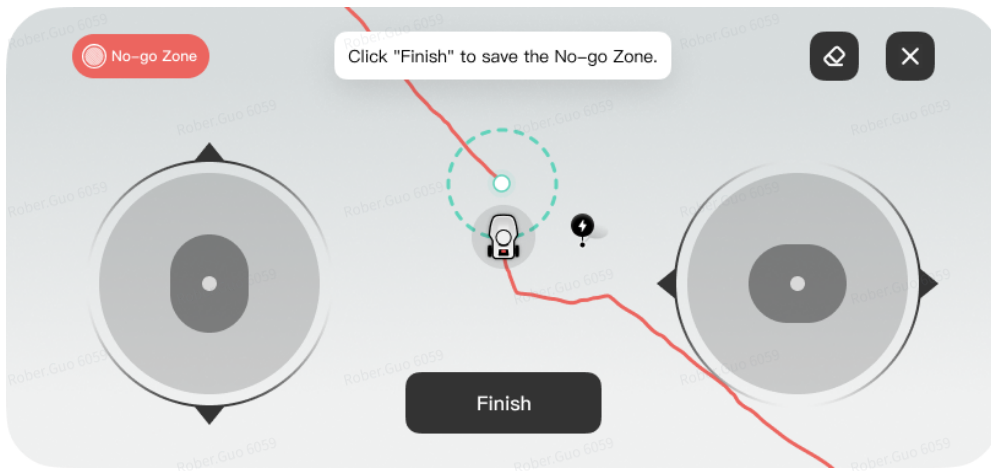


3. The solid line represents the boundary you've drawn, while the dashed line will help guide you back to the starting point.



A restricted area can only be created after the lawn mowing robot has been controlled back to the starting point.

4. If necessary, click the erase icon, and the lawn mowing robot will retrace along the drawn path to erase the boundary of the no-go area that has been retraced.
5. Control the lawn mowing robot to return to the starting point, then click the "Finish" button to save the restricted area

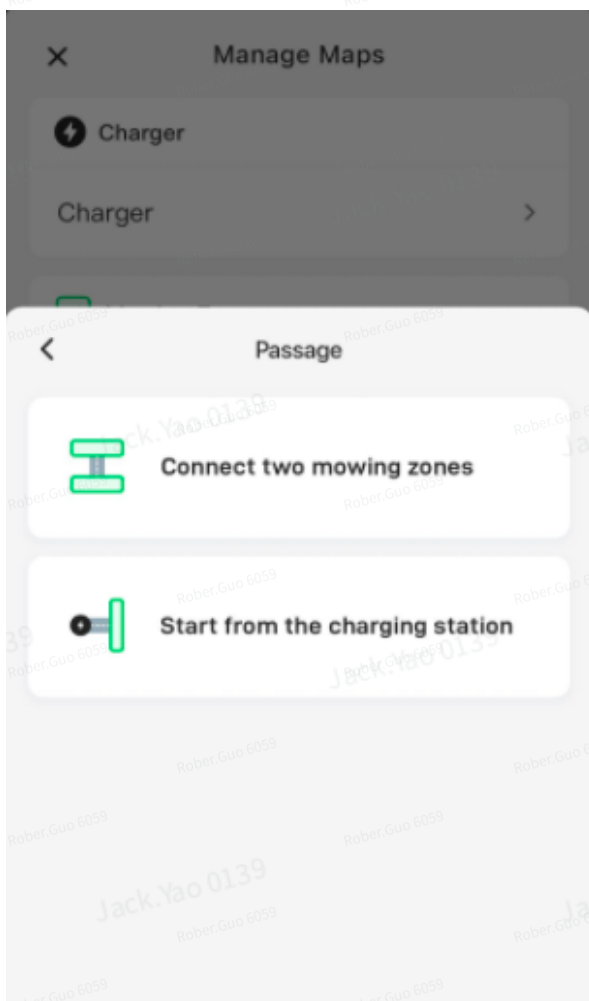


8.5.2.9 Build a connecting line

A. Connecting lines between plots

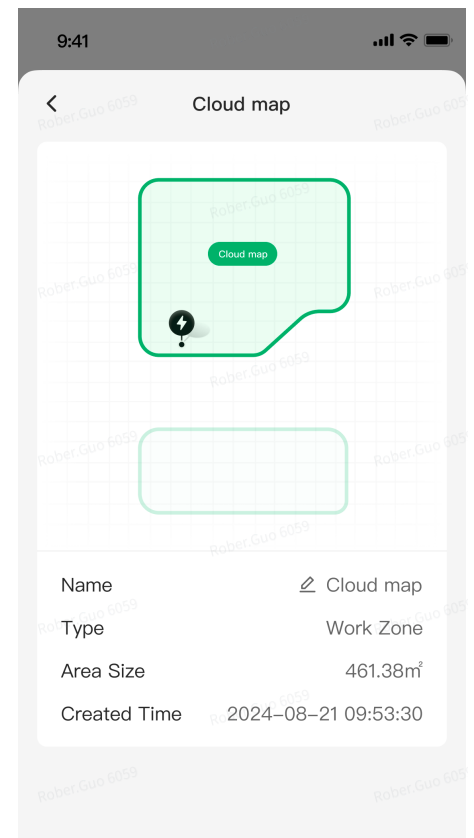
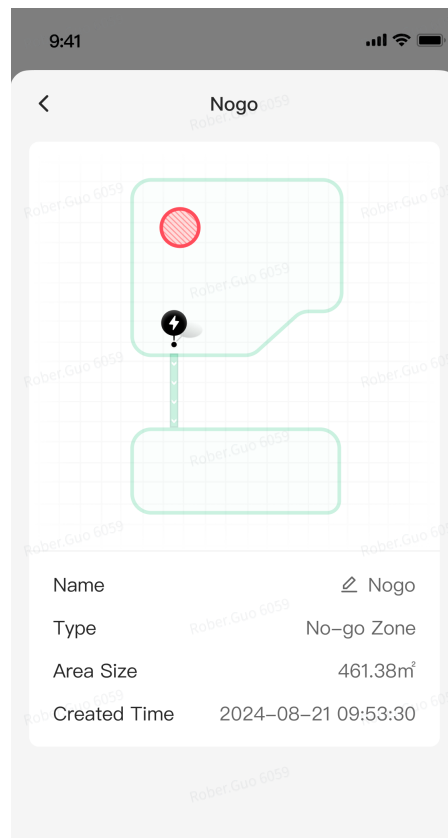
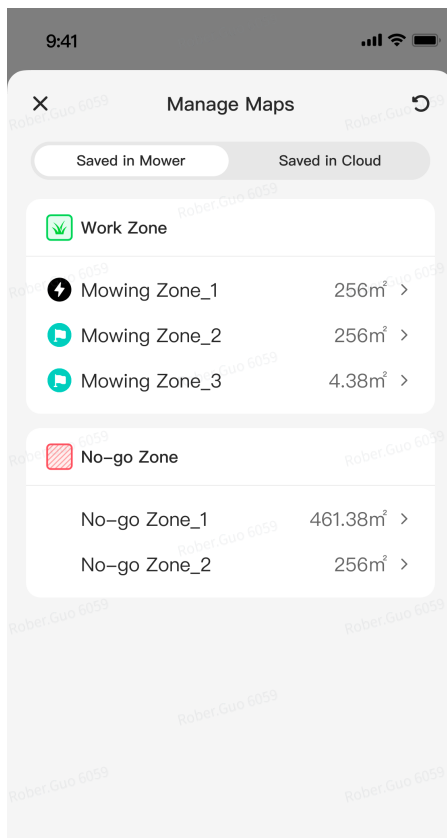
B. The connection line that connects the charging pile and the plot, which needs to start from the charging pile to ensure that the vehicle starts while charging

Note: The starting and ending points of the connection line must penetrate into the plot by more than 0.5m to complete the selection of the starting and ending points



8.5.2.10 Delete Map

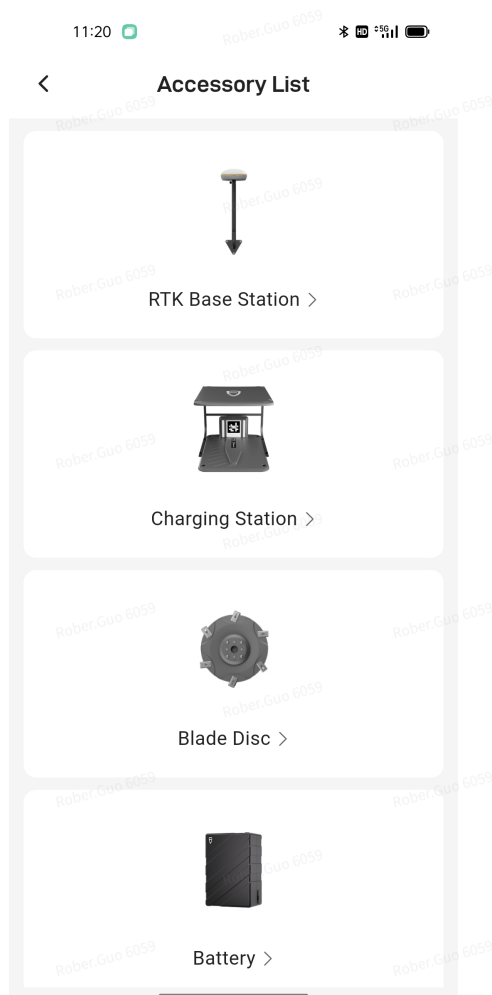
- To delete a map: On the map management page, click the desired work area, restricted area, or charging station, then click Delete and confirm.
- Deleting a charging station will also delete the connecting corridor connected to the charging pile.



8.5.2.11 Reset RTK Base Station

After the map is drawn, **do not move the RTK antenna**, otherwise it may cause a deviation 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.



8.5.2.12 Stop-and-go: Quick demo

1. Connect to the network
2. Connect to NTRIP
3. Create mowing zone without passage
4. Start Task

8.5.3 Create a mowing schedule

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

Note:

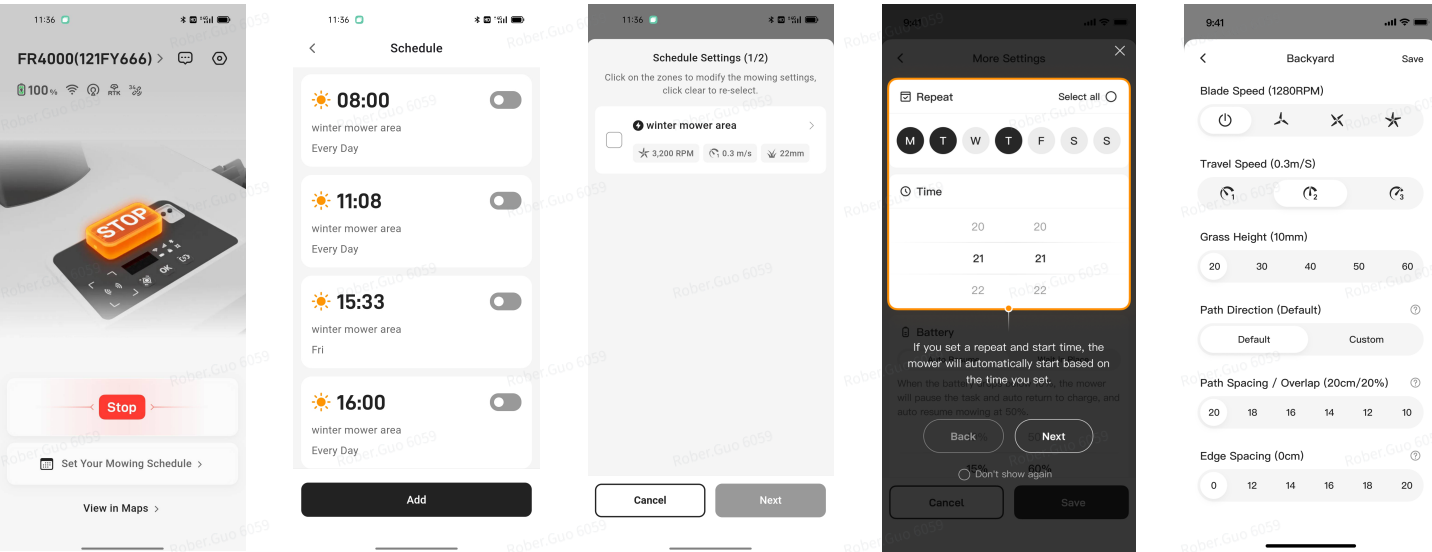
The mowing plan can only be set after the map is drawn.

Modifications to scheduled tasks during the operation of the automatic lawn mower will not affect tasks that have already been executed.

The mowing schedule is divided into a scheduled job table and a prohibited job table

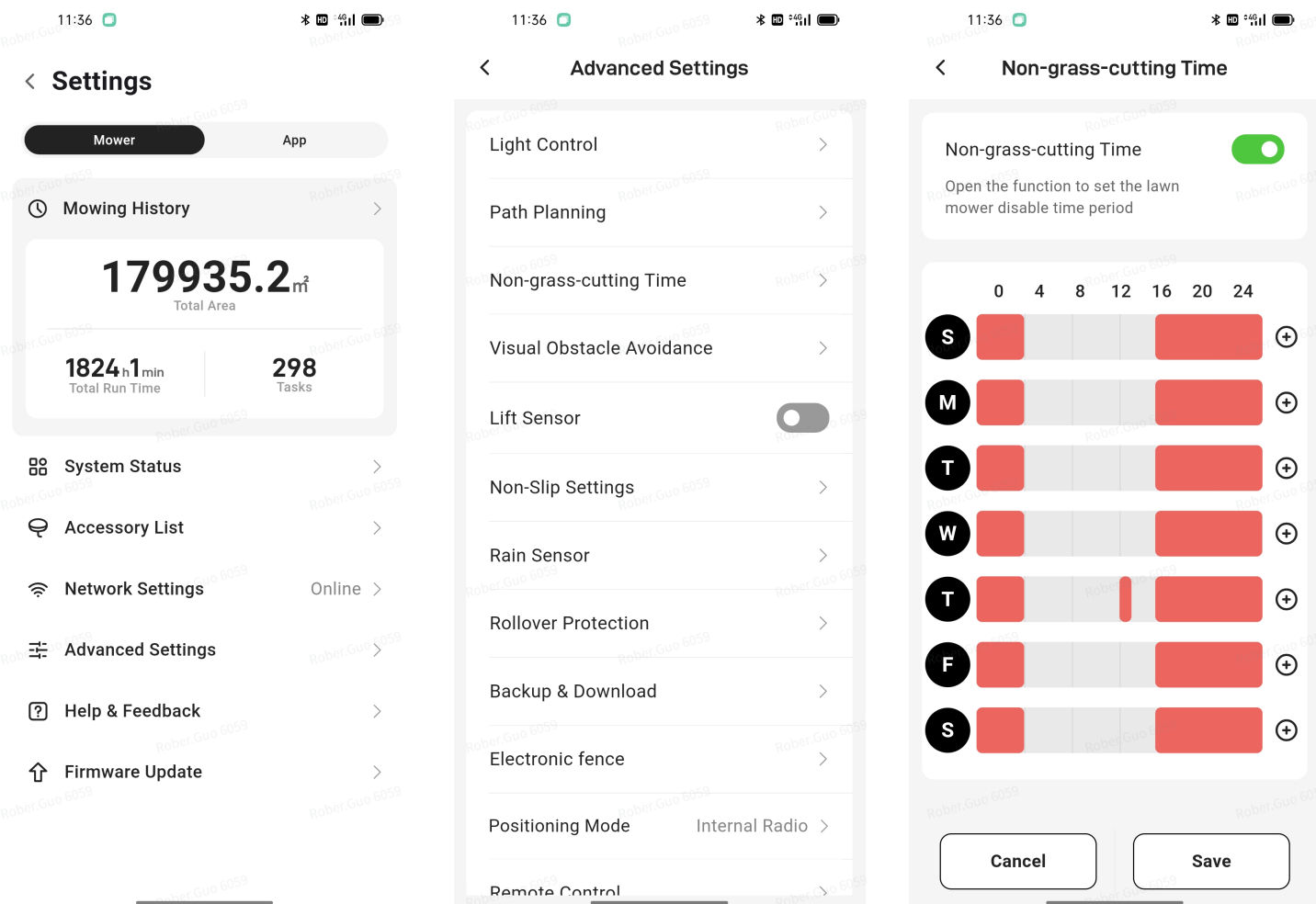
8.5.3.1 Timed Job Table

Set parameters such as daily working hours and job plots



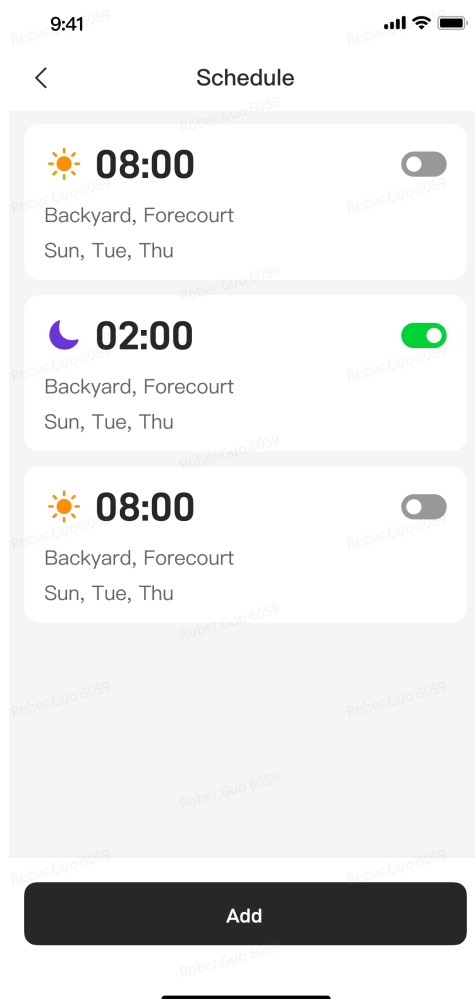
8.5.3.2 Prohibited Job Schedule Table

Set the daily time period during which work is prohibited. During this set time, the machine will not operate and will enter a waiting state. After the prohibited time ends, it will continue the unfinished tasks.



8.5.3.3 Modify scheduled task

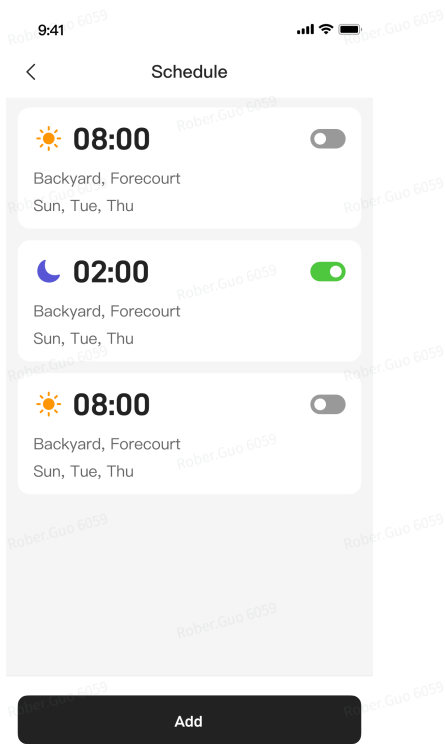
1. Click "Mowing Plan" on the product homepage.



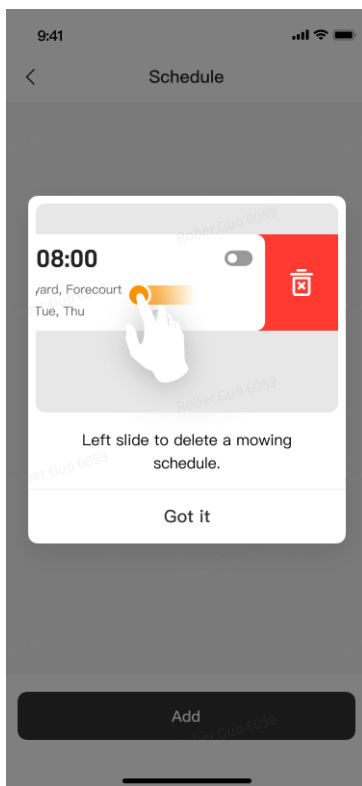
2. Click on the scheduled task item you want to modify.
3. Modify the start time, repetition frequency, working area, plot mowing configuration, and other parameters of the scheduled task.
4. Click the Confirm button to save the scheduled tasks.

8.5.3.4 Delete scheduled task

1. Click "Mowing Plan" on the product homepage.



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

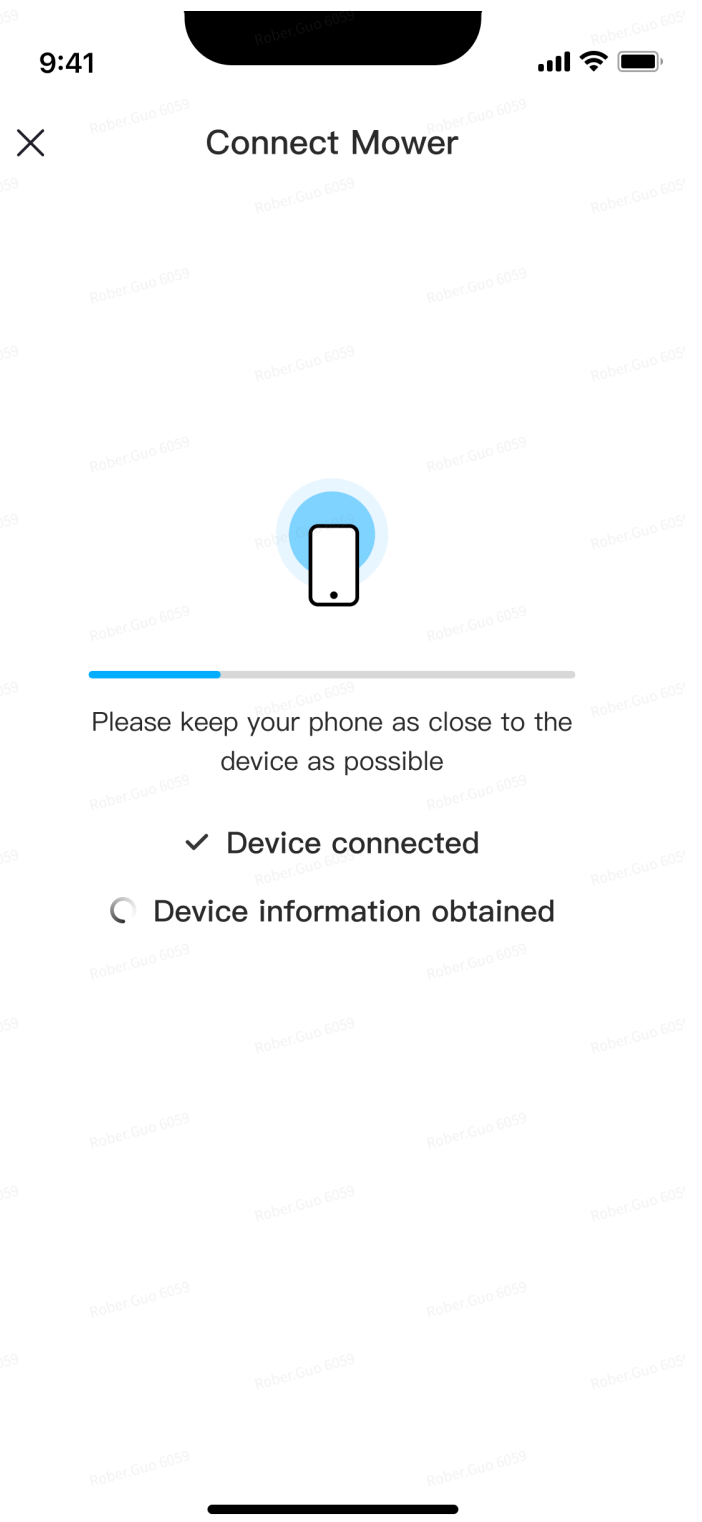
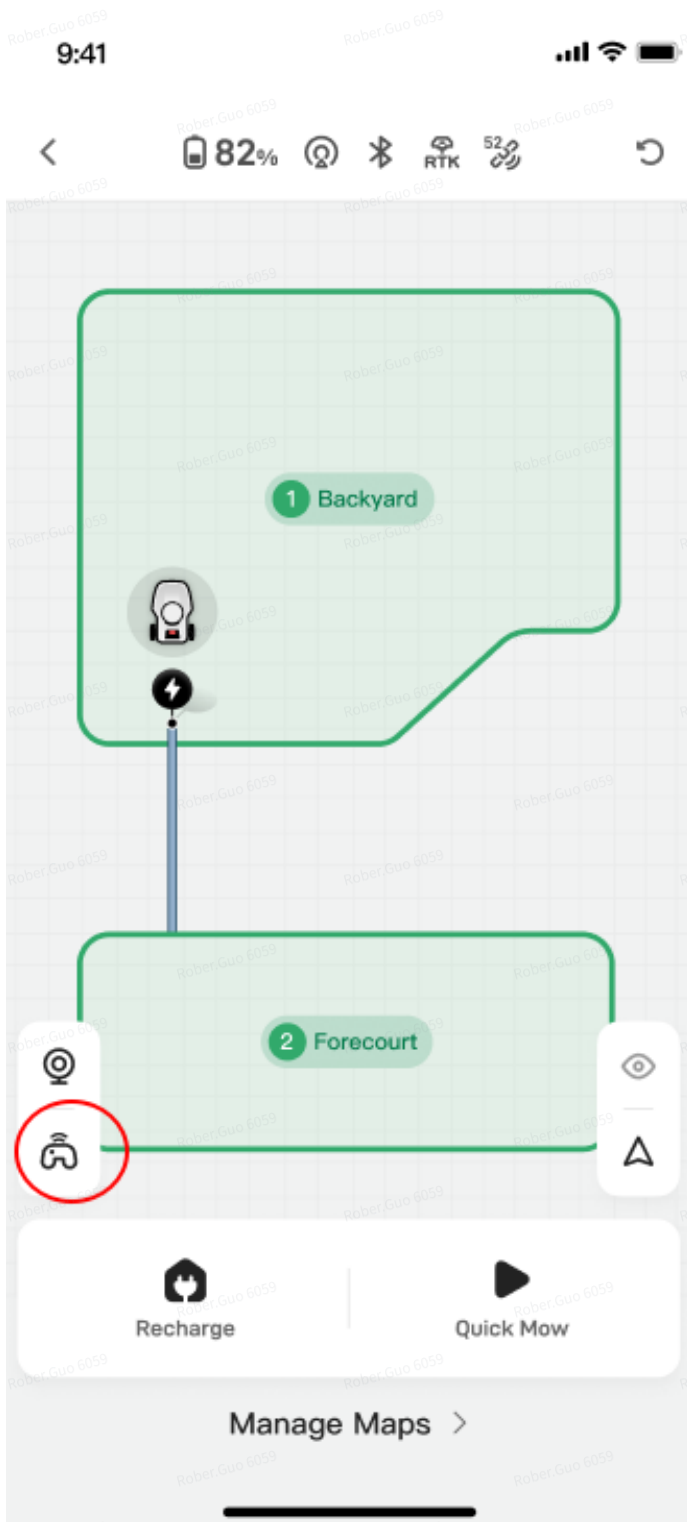


3. Click the delete icon that appears and confirm.

8.5.4 Manual Remote Control

1. Please ensure that the Bluetooth function of your mobile phone is turned on, and the distance between the mobile phone and the smart lawn mower is less than 3 meters.

2. Ensure that the automatic lawn mower is working properly and that the emergency stop switch is turned off.
3. Click "Manual Mode" on the product features homepage.
4. The application will activate the Bluetooth connection with the robotic lawn mower, and upon successful connection, it will enter the manual mode page.
5. Operate the forward/backward and left/right joysticks to remotely control the robotic lawn mower.
6. Clicking the speed icon allows you to adjust the driving speed in remote manual mode.



8.5.5 Lawn Mowing Operation

- **Preparatory Work**

Ensure that the automatic lawn mower is at the charging station within the working area and has sufficient power.

If any accident occurs during the mowing process, please press the emergency stop button on the automatic lawn mower. The automatic lawn mower will prioritize 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 approximately $\frac{2}{3}$ of the current grass height. If the grass height exceeds 60 mm (2 inches), it is recommended to set the minimum stubble height to 40 mm (1.6 inches).

- **Execute via the top panel button**

Note:

When activated via the top panel button, the robotic lawn mower will perform mowing operations on all mapped plots in the mapped order.

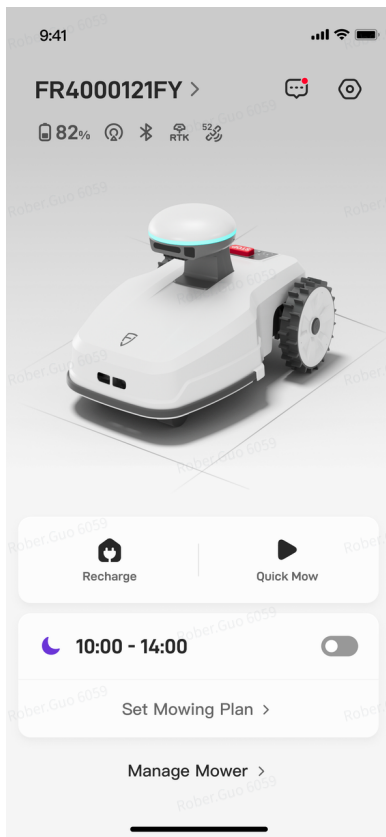
1. Enter PIN code 0000 to unlock the command function on the top panel.
2. Click the mowing button, then click OK.
3. The automatic lawn mower will emit a "beep" sound to indicate that it has received the task instruction.
4. The automatic lawn mower will perform the mowing operation.

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

Note:

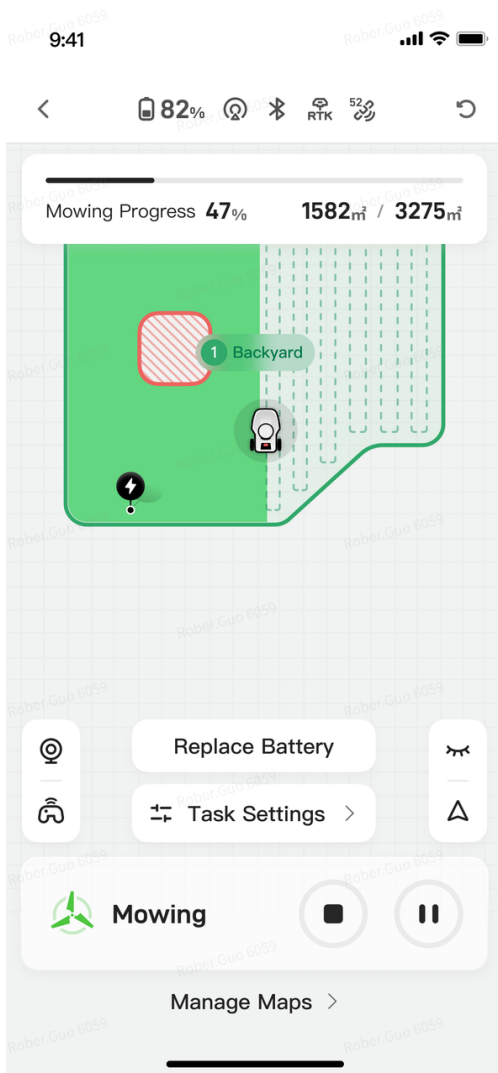
When activated via the application, the robotic lawn mower will perform mowing operations on all mapped plots in the order of mapping.

1. On the home screen of the robotic lawn mower application, press and hold the start button quick mow.
2. The automatic lawn mower will perform one-touch operation.



- **Pause operation**

Press the emergency stop button on the top control panel of the lawn mower, or click the pause icon on the APP



- **Restore Operation**

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

Precautions:

During the mowing process, if the battery level is too low (below 10%), the intelligent lawn mower will automatically stop mowing and return to charge. When the battery level reaches the threshold for resuming mowing (default 90%), the intelligent lawn mower will automatically return to the last mowing point and resume mowing operations.

- **Set up scheduled tasks**

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

8.5.6 Return to the charging pile

8.5.6.1 Auto Recharge

When the automatic lawn mower successfully completes the mowing task or triggers the condition to resume mowing, it will attempt to return to the charging station for charging. To trigger the charging function, the automatic lawn mower needs to be within the established working area and not within any restricted areas.

8.5.6.2 Manual Recharge

The intelligent lawn mower can return to the charging station by operating the buttons on the top panel or by issuing commands via the APP.

Execute via the top panel button

1. Unlock the PIN code 0000 on the top panel.
2. Click the home icon, then click OK.
3. The automatic lawn mower will emit a "beep" sound to indicate that it has received the task instruction.
4. The automatic lawn mower will activate the return-to-charge function.

Executed via the application

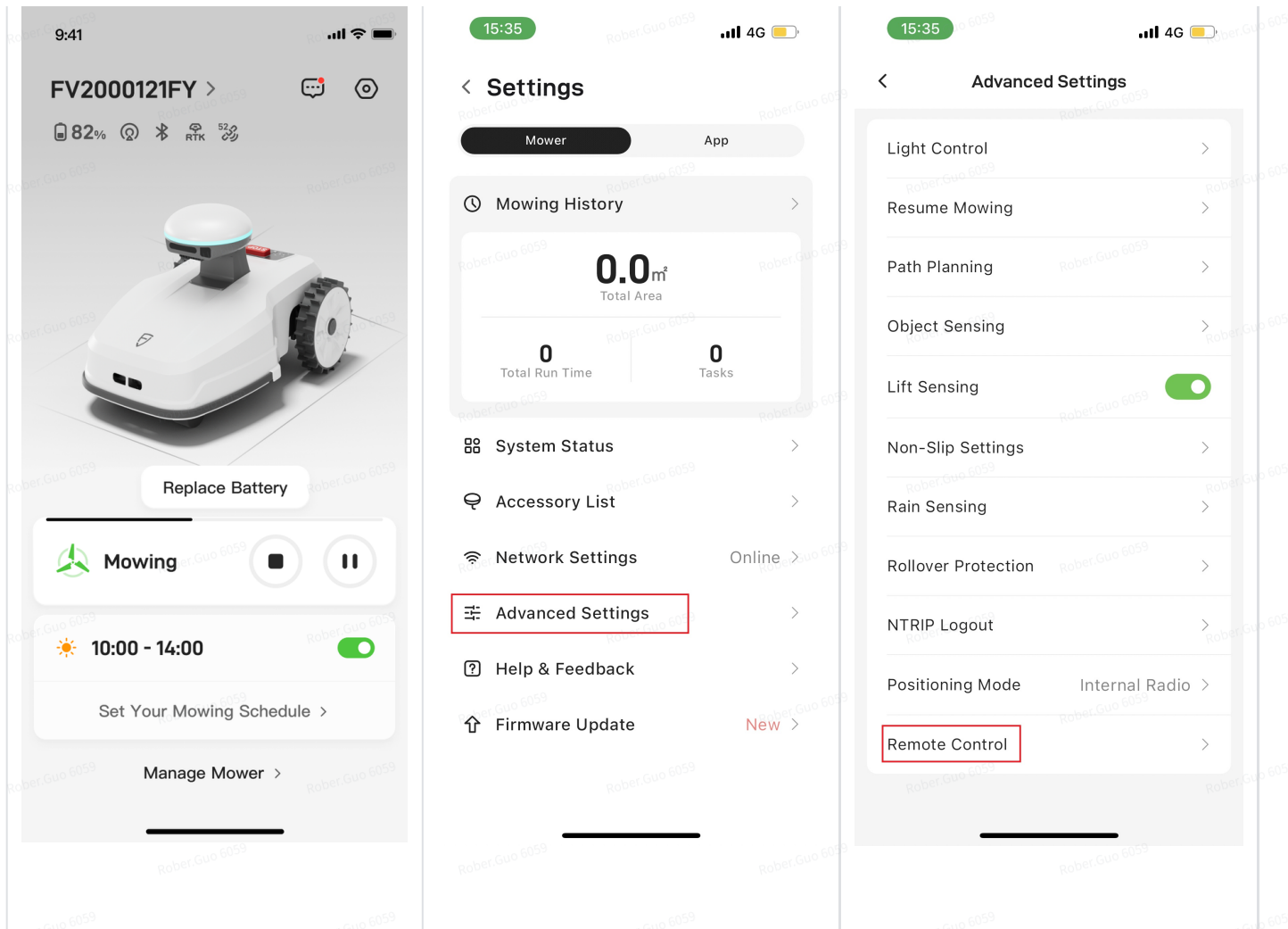
1. Click the charging icon on the home page of the lawn mowing robot application.
2. Click the recharge button.
3. The automatic lawn mower will activate the return-to-charge function.

8.5.7 Advanced Settings

[Remote Control]

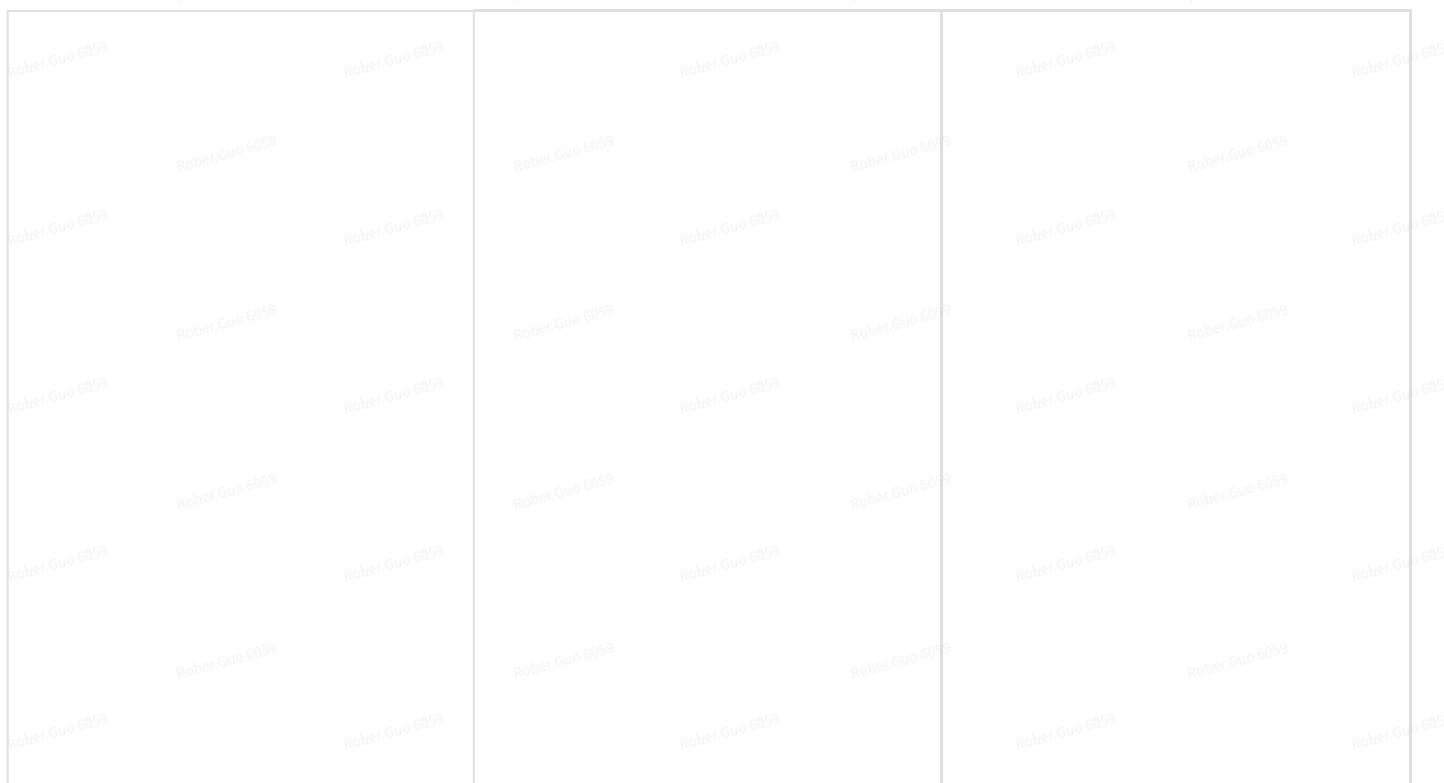
Step 1: 【Settings】 — 【Advanced Settings】 — 【Remote Control】

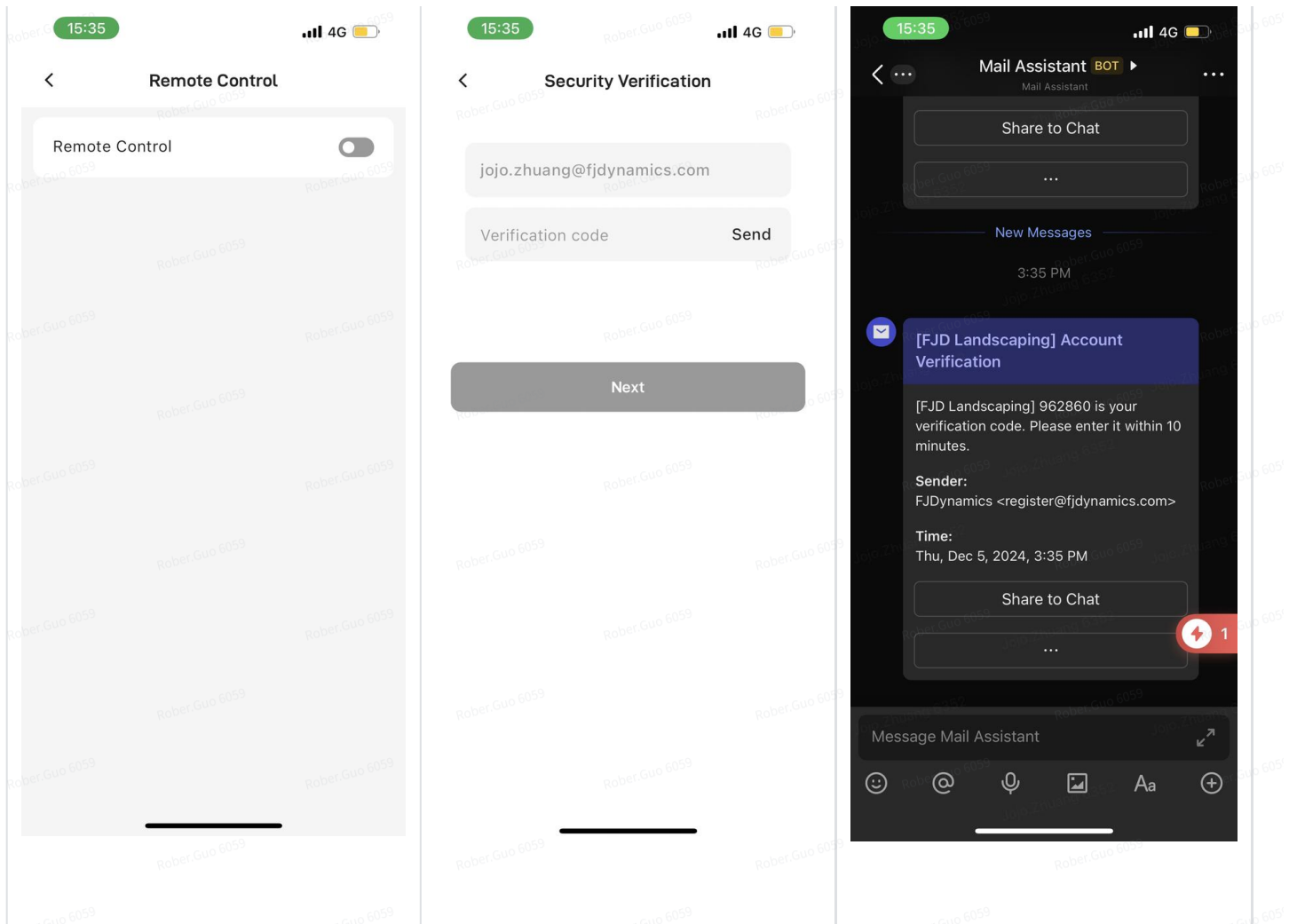
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Step 2: Activate the remote control selection → Complete security verification using your email address →

Enter verification code

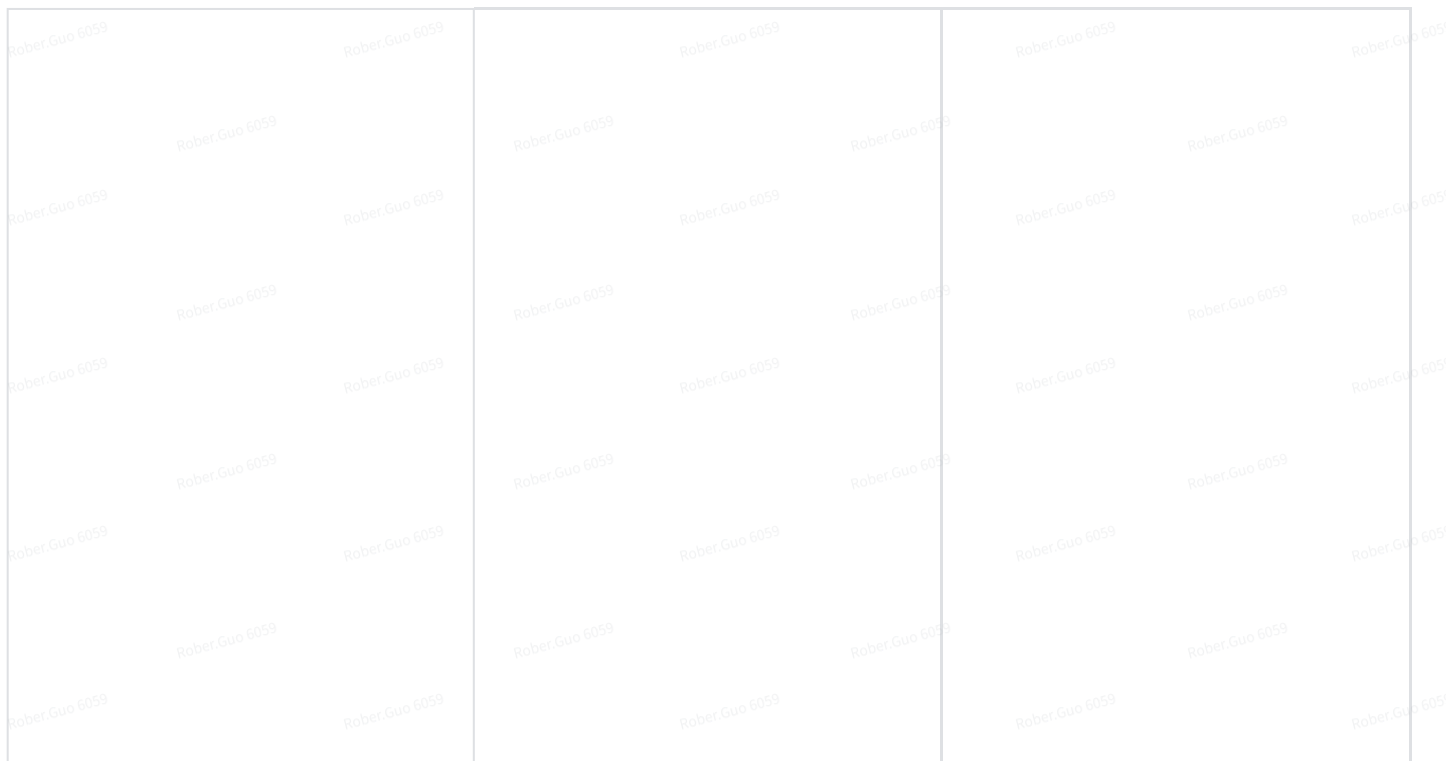


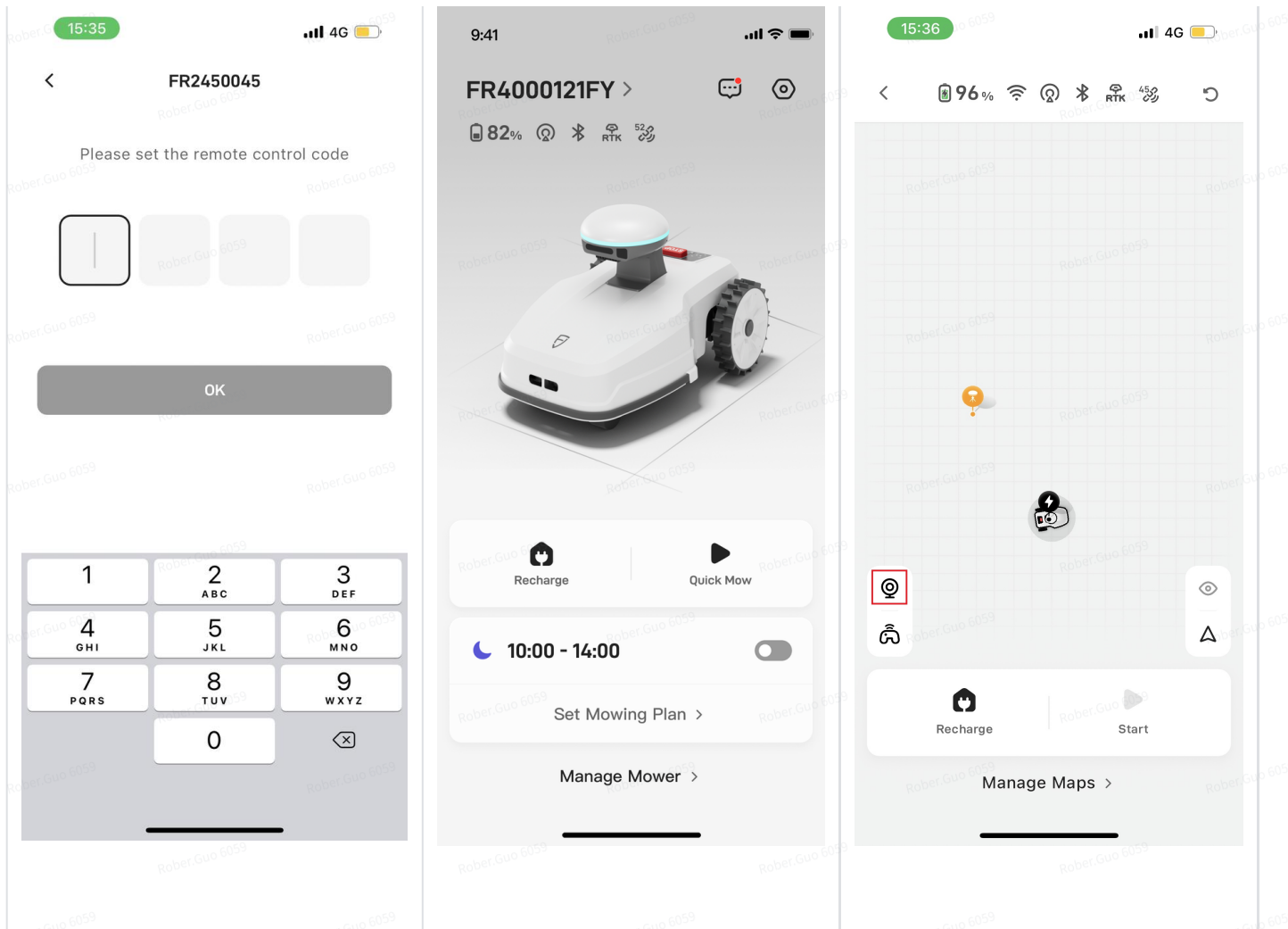


Step 3: Complete setting your four-digit remote control code →

Please return to the home page, click [View on Map] at the bottom →

Click the "Camera" icon in the bottom left corner





Step 4: Enter the four-digit remote control code

< FR2450045

Please set the remote control code

8 8 8 8

OK

Forget

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

- You can click the "Map" icon to view the mower's location in real time.
- You can check the status at the top of the screen.
- You can choose to click the [Stop] button in the top right corner to stop the lawn mower.
- You can also manually control the lawn mower by clicking the [Joystick] icon in the upper right corner.



[Obstacle Sensing]

- In a specific work area or scenario, 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 rely on the basic anti-collision bumper for obstacle avoidance during edge cutting.
- The corridor obstacle avoidance switch allows you to choose to turn on or off corridor obstacle stopping

[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 rain sensor or set the rainfall pause time (up to 48 hours).

[Roll Protection]

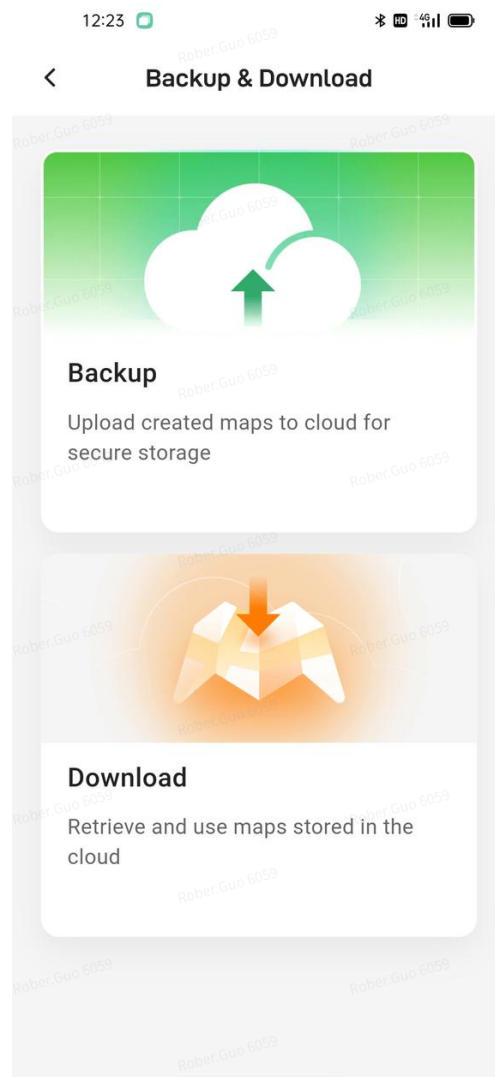
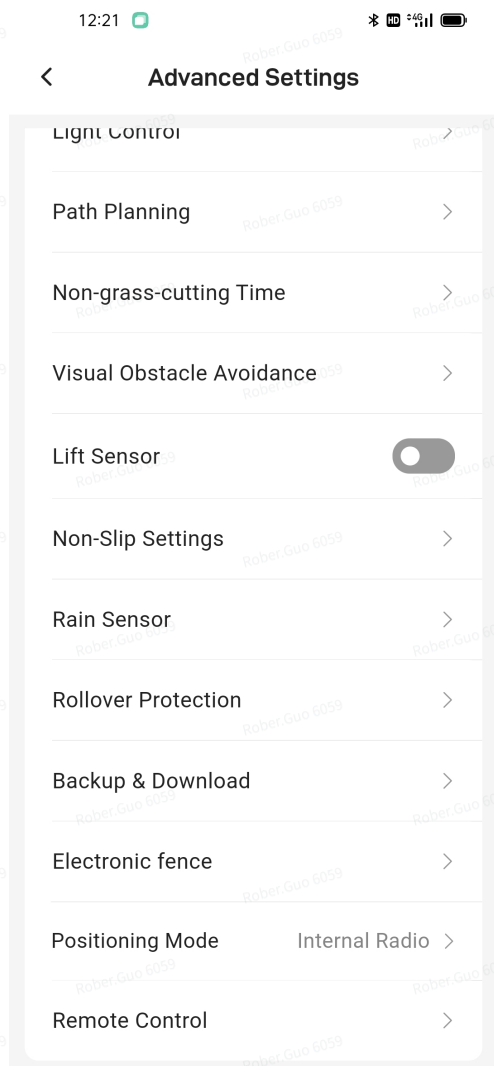
Now users can adjust the angle configuration, which will activate the tilt sensor. (15%-60%)

[Electronic Fence]

Now users can set a vehicle or charging pile as an anchor point, define a fenced area within a radius, and if it exceeds the fenced area, an alarm email will be sent and operations will be stopped

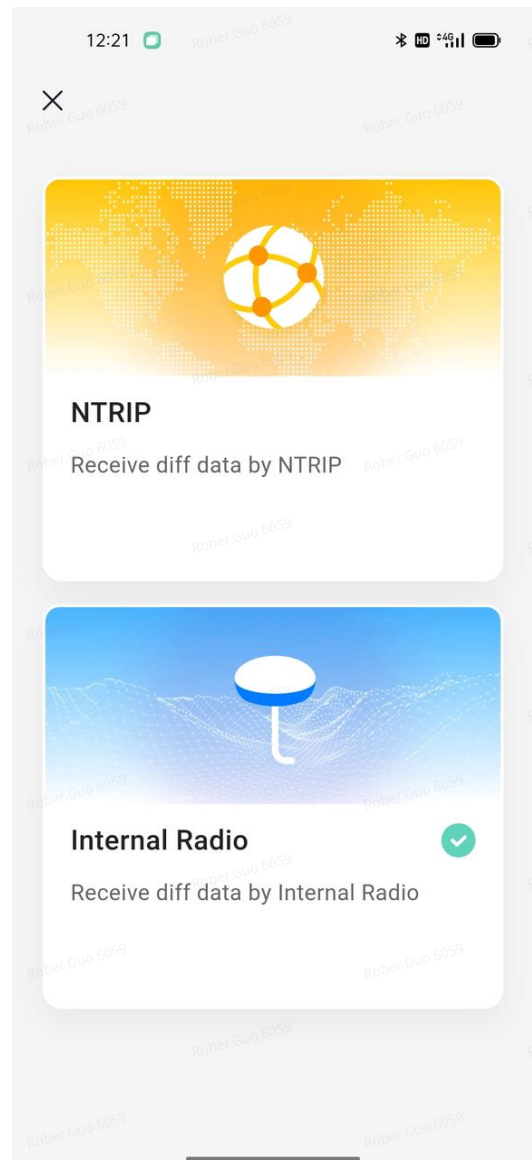
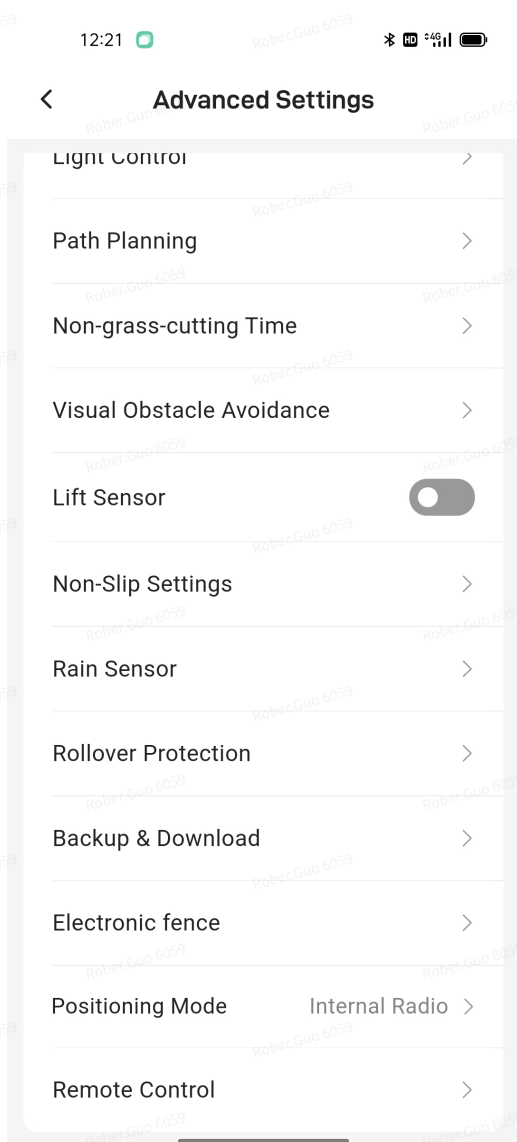
[Backup Synchronization Map]

Now users can actively upload local maps to back up current map information. At the same time, they can download maps backed up in the cloud later



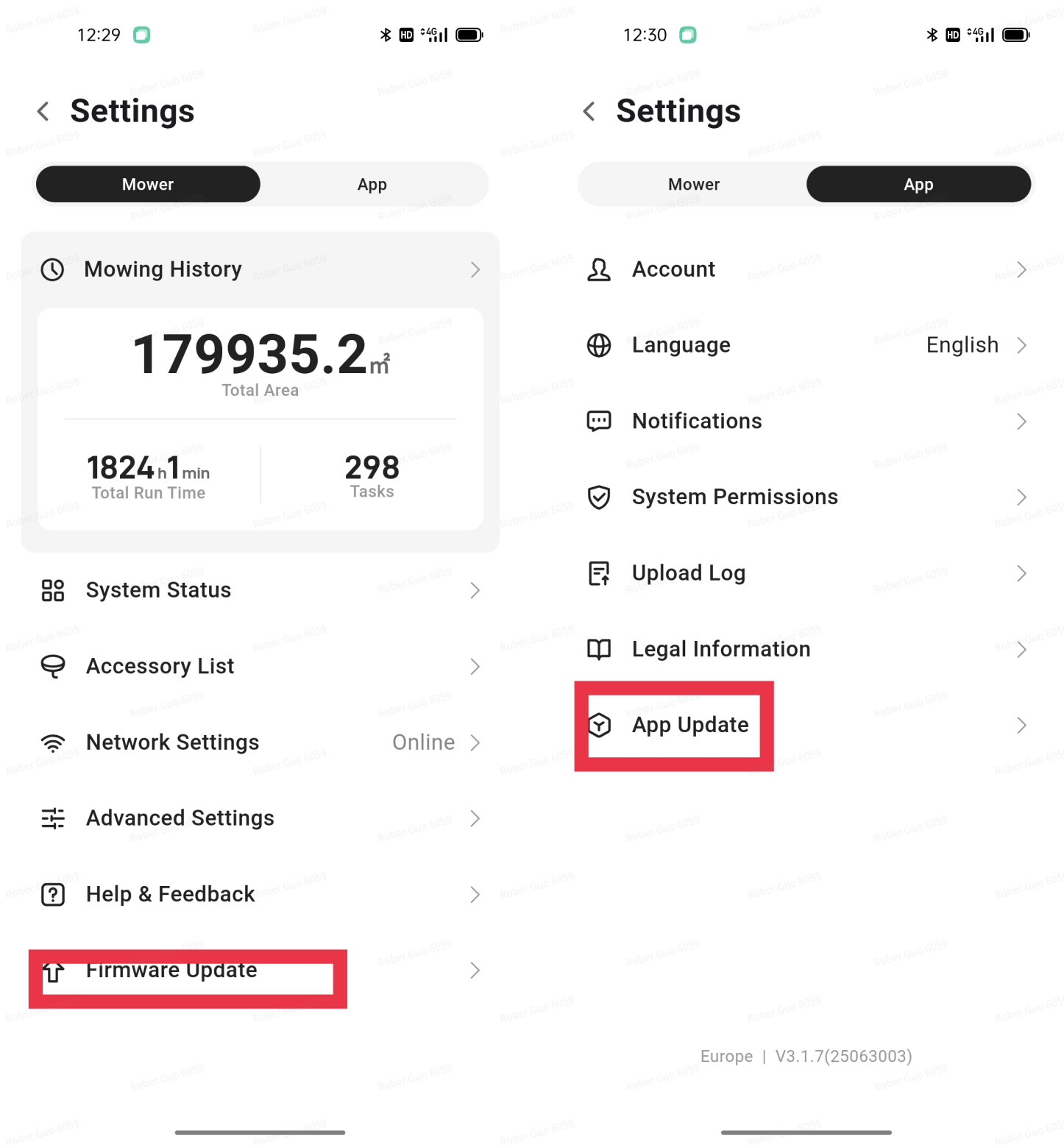
[Positioning Mode Switch]

Now users can actively switch the positioning mode, choosing either the ntrip network rtk or the local base station mode



8.5.8 Upgrade Firmware

1. It is recommended to perform the upgrade when the battery of the automatic lawn mower is fully charged and it has not been running for a period of time.
2. Ensure that the automatic lawn mower is connected to a strong Wi-Fi signal.
3. Enter firmware upgrade and click Upgrade Now.
4. Waiting for the upgrade to complete.



9. Maintenance

9.1 Maintenance Plan

Period	Maintenance Items
Before first use	• Check for any fault prompts when starting up • Observe whether the wheel is loose • Check the cutter

	◦ The cutter must be sharp. ◦ Check whether the bolts of the cutter and cutting disc are loose, and tighten them with a wrench • Check whether components such as screws, nuts, or bolts are damaged, missing, or loose. Ensure that all protective devices are installed in place and functioning properly • To ensure that the operating system and applications remain up-to-date, check for software update notifications, and if available, install them promptly (timely update according to regular reminders)
In use	• Avoid long-term operation on wet grass or rough terrain. • Regularly pause to check if the blade is entangled with debris. • Avoid collisions with hard objects, such as stones, tree roots, etc. • Avoid working on potholed ground. • Large obstacles such as tree trunks, thin obstacles such as chair legs, etc., that are likely to jam the machine should be circled as restricted areas
After each month of use	• Clean the header (increase inspection frequency as needed) ◦ Lower the header in the app accessories bar, then turn off the machine ◦ Use a small water pipe and rinse appropriately, avoiding the use of high-pressure water guns for forceful flushing ◦ After cleaning, dry it off and turn on the machine • Check the cutter ◦ Change direction as needed after 4-6 weeks, and scrap as needed after 9-12 weeks • Check the looseness of the rear wheel screws and tighten them • Check the front wheel blockage and clean the grass clippings • Wipe the machine and the front glass of the camera • Clear the weeds near the charging pile

9.2 Store the lawn mower

If you plan to not use this device for an extended period, please follow the steps below for storage.

- Turn off the vehicle's power supply.
- Clean the lawn mower as described in the previous section.
- Check the cutter, and replace or sharpen it if necessary (refer to the maintenance section).

- Store the lawn mower indoors in a dry, clean, well-ventilated area out of reach of children. Do not place it next to corrosive materials, such as fertilizers or rock salt.
- Do not cover the lawn mower with solid plastic sheeting. Plastic coverings can trap moisture around the lawn mower, leading to rust and corrosion.
- Thoroughly check for any worn or damaged parts that need to be replaced, and order them from the dealer.
- For more information on battery pack maintenance, please refer to the battery pack maintenance section of this manual.

9.3 Battery Maintenance

	During maintenance, only batteries specified by Fengjiang Intelligence can be used for replacement. Using any other parts may cause danger or product damage.
	Do not smoke when repairing the battery.
	Be sure to wear safety glasses and protective clothing near the battery. Use insulated tools.
	Using compressed dry air as a cleaning method for charging piles is not recommended. If using compressed air for cleaning is the only available method, always wear safety goggles. If the environment is dusty, also wear a dust mask.

Your lawn mower is powered by a battery, which will provide many years of service life if properly maintained. To ensure proper care, please follow the instructions below:

- When the lawn mower is not in use, please promptly turn off the power switch of the vehicle to reduce unnecessary battery power consumption.

	Charge using a charging pile (charger) approved by Fengjiang Intelligence. Incorrect battery charging will void the warranty and may cause equipment damage, serious injury, or death to personnel.
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- Each time the battery is serviced, check that the battery cables are securely fastened to the battery.
- Prevent grass, dirt, and debris from accumulating near the battery terminals.
- After battery under-voltage protection, the battery shall not be kept in a discharging state for a long time, otherwise the battery will be damaged.
- Charge the battery in a well-ventilated, dry place away from sparks or air currents. Never allow the charging pile (charger) to come into contact with rain, steam, or liquid.
- The charging pile (charger) recommended by Fengjiang Intelligence is only for charging the batteries provided by Fengjiang Intelligence.
- Do not touch the electrodes of the charging pile or the uninsulated parts of the output connector.
-
- To extend the service life of the battery pack and ensure the modules remain in good condition, please follow the instructions below.
- Over-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 the battery as soon as possible. Even if you only charge the battery for 5 - 10 minutes, it is 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 an extended period (days or weeks), please disconnect the power switch on the vehicle to reduce standby losses 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 has approximately 50% charge before starting storage, and recharge the battery to over 50% every 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
- When the storage environment temperature is in the range of 0°F to 113°F, the recommended storage time is no more than one month; when the storage environment temperature is in the range of 0°C to 35°C (32°F to 95°F), the recommended storage time is no more than six months.

- The optimal operating temperature range for discharge is 0°C to 50°C (5°F to 122°F), and it is recommended to use within this temperature range.
- During storage, battery packs should avoid severe vibration.
- Battery Maintenance Tips:
 - Charge the battery in time before it runs out of power
 - Avoid booster charging a fully charged battery
 - Charge under suitable room temperature conditions, and perform a booster charge after the battery has cooled down

9.4 Maintenance and Care Precautions

- Park the lawn mower on a level surface. Ensure the cutter switch is in the "off" position, raise the cutting deck, and press the emergency stop switch.

9.5 Warranty Plan

Under non-abnormal use and non-water immersion conditions, when maintained according to the instruction manual, the following quality assurance is provided

Component	Within the warranty period
Lawn Mower Body	2 years
Battery	2 years
Charging Station & RTK	2 years
Wheel	Not guaranteed
Ornament	Not guaranteed
Lawn mower blade, cutting disc	Not guaranteed



Before adjusting, cleaning, or repairing, wait for all movement to stop. Repairs or maintenance requiring electricity can only be carried out by trained maintenance personnel. And read and comply with the safety warning instructions in this manual.

- Any maintenance operation that requires the removal of the safety cover must be performed by a trained maintenance technician.
- Use a stick or similar tool to clean the bottom of the header, and do not get your body close.
- Prevent the accumulation of garbage, grass clippings, and other debris by keeping the battery compartment and header clean.
- Clean all dirt and debris from the battery compartment, electrical control box, header, etc. Do not use water, solvents, harsh cleaners, or abrasives.
- When repairing the battery, sharpening the lawn mower blade, or removing accumulated debris, be sure to wear safety goggles. Do not attempt to touch the lawn mower's cutting deck while the lawn mower is running.
- Do any adjustment or repair on the cutter or any attachment.
- Never work under the machine unless it is safely supported by jack stands. When the machine is raised and placed on jack stands, ensure that any maintenance operations requiring the removal of safety covers must be performed by trained maintenance technicians.
- Before inspecting the bottom of the header, ensure that the power switch is in the "off" position, i.e., the indicator light is off, and the header blade switch must not be accidentally activated.
- Use a cleaning brush or similar tool to clean the bottom of the header, and do not get your body close.
- Prevent the accumulation of garbage, grass clippings, and other debris by keeping the battery compartment and header clean.
- Clean all dirt and debris from the battery compartment, electrical control box, header, etc.
- When servicing the battery, sharpening the lawn mower blade, or removing accumulated debris, always wear safety goggles. Do not attempt any adjustments or repairs to the lawn mower's cutting deck, blades, or any attachments while the lawn mower is running.

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



All toxic substances must be handled in a specific manner to prevent environmental pollution. Before handling damaged or worn lithium-ion batteries, please contact the local waste management agency or the local Environmental Protection Agency office for information and specific instructions. Send the batteries to the local recycling or treatment center for lithium-ion processing.



If the battery is cracked, whether or not there is leakage, do not recharge or use the battery. Discard it and replace it with a new one. Do not attempt to repair it! To avoid injury and the risk of explosion or electric shock, and to prevent damage to the environment, cover the battery terminals with insulating tape.

- Do not attempt to disassemble or damage any batteries.
- Do not attempt to open the battery.
- If a leak occurs, the released electrolyte is corrosive and toxic. Do not allow the solution to flow into rivers or come into contact with skin, and do not ingest.
- Do not dispose of these batteries in household waste.
- Do not burn.
- Do not place it in any location that will become a landfill.

10. Troubleshooting

10.1 Faults and Troubleshooting of the Mowing Function of the Header

If you are unsure, please contact your dealer.

Grass clippings cannot be discharged well	Grass is wet	Work after the lawn has dried
	The grass is long	Increase the cutting height and cut twice
	Low cutting height	Increase cutting height
	Fast work speed	Reduce operating speed
Residue after cutting	Fast work speed	Reduce operating speed
	The grass is long	Increase the cutting height and cut twice
	Cutter wear and damage	Replace with a new cutter

	Grass accumulates inside the header	Clean the interior of the header
Uneven cutting	Fast work speed	Reduce operating speed
	The cutter is not sharp enough	Sharpen the cutting knife
	Blade Bending	Replace with a new cutter
	Header is not level	Level the header according to the "Adjusting Header Horizontal and Vertical Position" section of the instruction manual
	Cutter wear	Replace with a new cutter
	Roller settings are incorrect	Adjust the height of the roller
	Low tire pressure	Inflate to normal tire pressure

Cut to grass (soil block)	Low cutting height	Increase cutting height
	Fast turning speed	Reduce turning speed
	There is a bulge on the ground	Change mowing operation mode (cutting direction, etc.)
	Cutter Bending	Replace with a new cutter
Large vibration	Grass accumulates inside the header	Clean the header
	Cutter bent or unbalanced	Replace with a new cutter or balance the cutter
	Cutter fastening bolt loose	Tighten the cutter fastening bolts
	Fast work speed	Reduce operating speed
		Clean the header

Header has a heavy workload	Grass accumulates and wraps around the cutterbar shaft	
The cutter is serrated and grayish-brown	The cutter is not sharp	Sharpen the cutting knife
	Cutter wear	Replace with a new cutter
	Header is not level	Level the header
An error message is displayed on the car infotainment system	Handle and maintain according to the displayed error message	Handle and maintain according to the displayed error message
The lawn mower fails to start	Power switch light goes out	Check if the power switch is turned on and the indicator light is lit
	Battery cable is not connected	Ensure that the battery cable is connected
	Circuit breaker trips	Check if the circuit breaker has tripped

10.2 Battery Fault and Handling

When handling batteries, please carefully read the battery precautions.

Fault	Fault Status	Troubleshooting or Solutions
The lawn mower fails to start	Battery is out of power	Fully charge the battery
	Poor contact of battery terminals	Clean the terminals, then retighten the bolts and nuts
	Battery life has expired	Replace the battery

	There is a problem with the wiring harness and switch	Entrust the dealer for repair
Unable to charge	Battery life has expired	Replace the battery
The terminal is severely corroded, and the terminal is heating up	Terminal fastening is insufficient	Clean the terminals, then retighten the bolts and nuts
Sudden decrease in battery fluid	The battery has cracks and small holes	Replace the battery
	Charging voltage is too high	Check the charging pile (charger)

10.3 Troubleshooting of Lawn Mower Wiring Harness

The lawn mower fails to start	Poor contact of the wiring harness terminal below the power switch	Loose connectors need to be reinserted into the switch, and loose switch wiring harness pins need to be repaired by a dealer.
	The plug of the wiring harness to the battery is loose	Check and plug in the plugin
Motor does not work	Problems with the power wiring harness or communication wiring harness of each motor	Check the continuity of the power cable harness and communication cable harness, and whether the plug-ins are loose. If so, it is necessary to entrust the dealer for repair.

The switching device does not function	The plug of the wiring harness to the battery is loose	Check the problem switch according to the interface display, then check whether this switch plugin is abnormal, and if so, it needs to be entrusted to the dealer for repair
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10.4 Cutting Table Cleaning

Note:

- Please remember: To ensure safety, always wear heavy-duty gloves, long 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 exterior 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 structures of the lawn mower.

10.4.1 Grass jams on the header deck

When suspecting that there is forage blockage inside the mower header, use the mower's lifting function to check and clear the blockage.

1. Keep the lawn mower turned on, open the mobile application, go to Settings, Accessories, Mower Blade Disc, and then click the {Grass Jam} button.
2. After the Bluetooth connection is successful, the mowing disc will extend outward to the maximum extent.
3. After the extension is completed, please turn off the power of the lawn mower, lift the lawn mower body, and check whether the cutting disc is jammed with grass.
4. After the operation is completed, lower the lawn mower and turn on the power, and the lifting of the cutting disc will automatically return to its initial state.

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



- Before cleaning, make sure the mower is powered off.
- Before turning the mower upside down, it must be powered off.
- DO NOT use a high-pressure washer.
- DO NOT perform maintenance when wearing open sandals or barefoot.
- Always wear heavy-duty work gloves, long trousers and work shoes when handling the mowing blade disc.

Blocked With Grass?



Blade disc reduced successfully!

Please turn off the mower when handling the mowing blade disc.

Got it

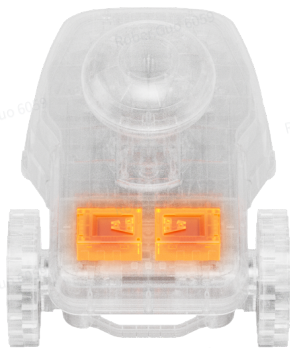
10.5 Frequently Asked Questions and Solutions: Will be displayed in the application

You can complete the self-check by inspecting these components to confirm the source of the fault

Emergency Stop



Battery Abnormal



Positioning anomaly



Collision



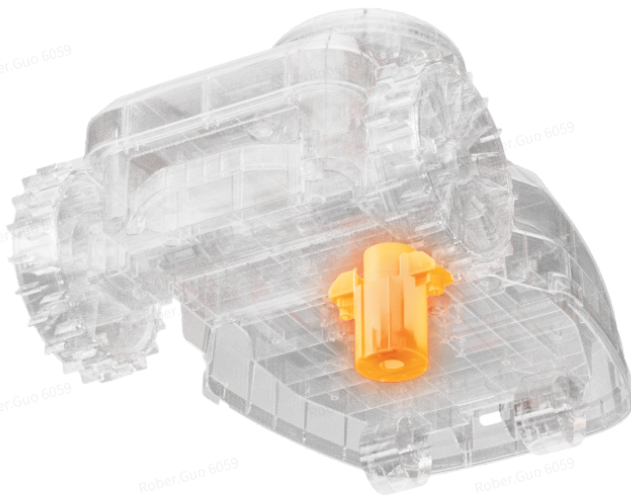
Front wheel anomaly



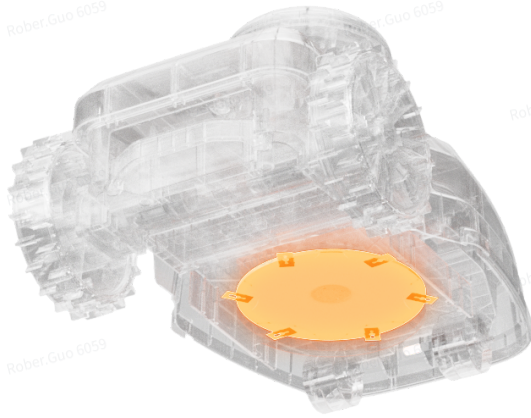
Abnormal driving wheel



Lifting motor is abnormal



Cutter motor is abnormal



11. Waste Disposal

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

12. Storage

Proper storage methods are crucial for maintaining the performance of lawn mowers and extending their service life. The following are several points to note when storing lawn mowers:

- 1. Drying and Ventilation:** Lawn mowers should be stored in a dry environment to prevent the machine from getting damp, which may affect the normal operation of its electrical system and mechanical components. Meanwhile, good ventilation conditions can prevent the internal parts of the machine from getting damp or corroded due to long-term enclosure.
- 2. Avoid direct sunlight and rain :** Direct sunlight and rain may cause the housing of the lawn mower to fade and deform, rapid aging of the paint spraying pipeline, and even affect the performance of its internal electronic components and mechanical parts. Therefore, a place should be chosen to store the lawn mower that avoids direct exposure to sunlight and rain.
- 3. Non-corrosive gas environment:** The environment where lawn mowing equipment is stored should avoid the presence of corrosive gases, as these gases may corrode the metal components of the lawn mowing equipment and affect its service life.

4. **Regular Inspection and Maintenance:** Even when stored in the correct environment, it is recommended to regularly inspect and maintain the lawn mower equipment to ensure it is in optimal condition. This includes checking for wear on mechanical components, leakage at pipe joints and other areas, and promptly performing repairs and replacements.

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