



Boundary Wire-Free

Raccoon 2 SE Robotic Lawn Mower

User Manual

Please go through the User Manual in detail before use to understand all instructions and safety guidelines.

Welcome

Welcome to the RoboUP family!

We're happy to have you, and we hope your new RoboUP mower helps you create the most amazing living spaces.

Remember, it's not just a mower, it's a trusted family member that's ready to keep your lawn looking its best, whilst giving you more time in your hands.

With our advanced C-PASS system, you can forget about boundary wires. Your RoboUP mower will map out your lawn and start mowing on its own, even on the most challenging terrains.

Safety is at the heart of what we do. Thanks to AI vision technology, your mower's smart eyes can detect and avoid obstacles at all times, ensuring your family is safe and your garden is immaculate at all times.

It's all in your hands! With our feature-rich App, you can control your RoboUP mower anytime and anywhere. Just follow the User Manual to get started, and you'll soon be enjoying more free time and a perfectly manicured lawn.

Thank you for choosing RoboUP.

Your RoboUP® Team

IMPORTANT!

Please go through the User Manual in detail before use to understand all instructions and safety guidelines.

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1 Safety

1.1 General Safety Instructions

⚠ Warning: Read the warnings below before using the mower!

- Read this User Manual carefully and make sure you understand the instructions before use. Keep the manual for future reference.
- Children should be supervised to ensure that they do not play with the mower.
- Never allow children, persons with physical, sensory or mental limitations or a lack of experience and/or knowledge and/or people unfamiliar with these instructions to use the mower. Local regulations may restrict the age of the operator.
- The mower must only be used with original equipment/accessories.
- Warning signs must be put around the working area of the product if it operates in public areas. The signs shall have the following text:

"Warning! Be aware of automatic lawn mower! Keep away from the machine! Supervise children!"



- Do not touch moving hazardous parts, such as the blade disc, before it has come to a complete stop.
- If an injury or accident occurs, make sure to get medical aid.
- If there is a risk of thunderstorm, it is recommended that the power supply and all the wires to the Charging Station are disconnected to avoid the risk of damaging electrical components. Reconnect power supply and all wires again when the risk of thunderstorm is gone. It is important that all wires are connected correctly.
- The operator is responsible for accidents or dangers that occur to other persons or property.
- The mower must only be operated, maintained and repaired by persons that are fully familiar with its special characteristics and safety regulations.
- It is not permitted to modify the original design of the mower. If there are any modifications made at your own risk, manufacturer's warranty will expire immediately in due course.
- Comply with national regulations about electrical safety.
- The operating temperature range is 3°C to 50°C and the charging temperature range is 4°C to 50°C, and the storage temperature range is -20°C to 50°C.
- Please do not run when operating the mower manually using the RoboUP App. Always walk, ensure stability on slopes and maintain balance at all times.

1.2 Safety Instructions for Installation

- Do not install the Charging Station, including any accessory, at the location that is closer than 60cm, 24in, to any combustible material in case of malfunction, over-heating of the Charging Station or if the power supply could create a potential risk of fire.
- Never connect the power supply to a mains AC outlet if the plug or cord is damaged. Worn or damaged cord increases the risk of electric shock.

- Do not mount the power supply at a location with a risk of flooding or submersion into water. Do not put the power supply on the ground.
- Do not encapsulate the power supply. Condensed water can harm the power supply and increase the risk of electrical shock.
- Applicable to USA/Canada and when power supply is installed outdoors with risks of electric shock. Install only to a covered Class A GFCI receptacle (RCD) that has an enclosure that is weatherproof with the attachment plug cap inserted or removed.
- Do not install power cords or extension cords in the mower's cutting area install the power cord according to these instructions:
 - Do not install the Charging Station in places where people might trip over.
 - Do not connect damaged cables or plugs, and do not touch damaged cables. If a cable is damaged during operation, unplug it from the power outlet. Cable wear or damage increases the risk of electric shock. Damaged cables must be replaced by qualified personnel.

1.3 Safety Instructions for Operation

- Keep your hands and feet away from the rotating disc blades. Never put your hands or feet near or below the mower when it is set to ON.
- Stop or turn off the mower when persons, especially children or animals are in the work area. It is highly recommended to run the mower only when the work area is clear. Though the mower has AI camera to recognize wildlife and other living animals at night, it is still recommended to set a daytime mowing schedule to protect wildlife.
- Check that there are no stones, branches, tools, toys, water pipes, small grill or other objects on the lawn that can damage the mower's blades or get damaged by mower. Objects on the lawn can also lead to the mower getting stuck. Assistance may be required to remove the object before the mower can continue mowing.
- Do not lift the mower or carry it around when powered ON.
- Do not use the mower if the STOP button fails to work.
- Always set the mower to OFF when it is not in operation for a longer period.
- Do not use the mower at the same time as a water sprinkler. Sprinkled water will activate the mower's rain sensor and disrupt its operation. You can use the App to disable the rain sensor so that watering the lawn and cutting grass can be done simultaneously.
- Do not allow the mower to use a defective cutting blade, nor should it be used with defective screws, or cables.

1.4 Safety Instructions for Maintenance

- Always turn off the mower before you clear a blockage, do maintenance, or examine the mower, and if the mower starts to vibrate abnormally, examine the mower for damage before you start again. Do not use the mower in case it is defective.
- Do not use a high-pressure washer to clean the mower. Do not use solvents for cleaning. After cleaning, make sure to place the mower on the ground in the correct orientation and do not invert it.
- Disconnect the mains power plug of the Charging Station before cleaning or maintenance of the Charging Station.
- Regularly inspect the blades, blade screws, and cutting components for wear or damage. Replace worn or damaged blades and screws as a set to maintain balance.

1.5 Battery Safety

- Lithium-ion batteries can explode or cause fire if disassembled, short-circuited, exposed to water, fire, or high temperatures. Handle carefully, do not dismantle, open the battery or use any type of electrical/mechanical abuse. Avoid storage in direct sunlight.
- Only use the original detachable power supply provided with the mower to recharge the battery.
- Incorrect usage may result in electric shock, overheating, or leakage of corrosive liquid from the battery. If electrolyte leakage occurs, rinse with water/neutralizing agent. If corrosive liquid gets into the eyes, seek medical attention immediately.
- Fully charge the battery before storage to avoid over-discharge and damage to the electrical components. Charge the mower every 120 days for long-term use and storage. Battery damage caused by over-discharge will not be covered by the Limited Warranty.
- The battery pack must be replaced by a skilled person only.

- DO NOT store the battery under extreme temperature conditions. i.e., above 50°C (122°F) or below -20°C (-4°F).

1.6 Transportation Safety

- The mower must be switched OFF before lifting, moving, or transporting.
- DO NOT lift the mower when parked in the Charging Station. This can damage the Charging Station and/or the mower. Push STOP and pull the mower out of the Charging Station before lifting.
- Carry the mower using the handle and with the blade disc pointing away from your body.
- To protect the mower, use the original carton packaging for long-distance transportation. Handle with care and avoid violent force, such as throwing and heavy pressure.

1.7 Symbols on the Product



Warning: Read the User Manual before operating the mower.



Warning: Keep a safe distance from the mower when operating. Keep your hands and feet away from the rotating blades.



Warning: Disable the mower before working or lifting the mower.

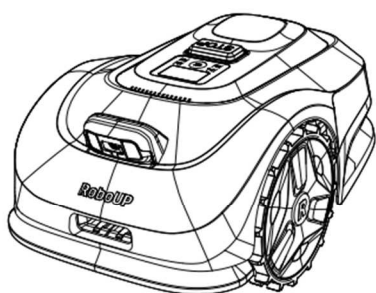


Warning: Do not ride on the mower. Do not put your hands or feet close to the mower.

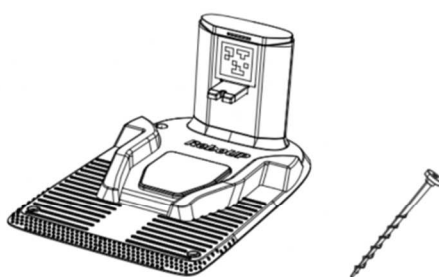
2 Product Unboxing

What's in the Box?

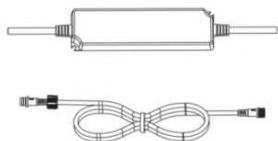
A. RoboUP Mower	F. Bumper & 5*M5 Screws
B. Charging Station & 4*Fixing Screws	G. 9* Spare Cutting Blades & Screws
C. Power Supply and 5m Extension Cable	H. 2* Spare QR code
D. 4* Beacons & 8*Fixing Screws	I. User Manual & Quick Start Guide
E. 2*Allen Keys	



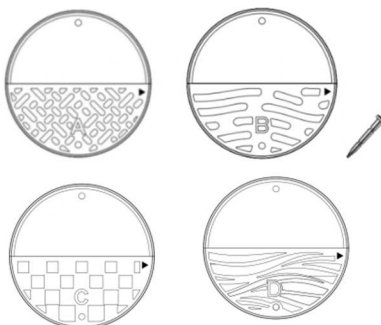
A:Raccoon 2 SE



B: Charging Station & 4*Fixing Screws



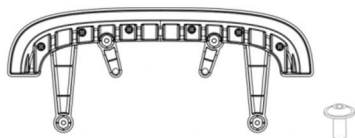
C:Power Supply and 5m Extension Cable



D: 4* Beacons & 8*Fixing Screws



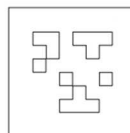
E. 2*Allen Keys



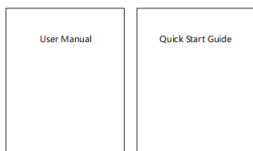
F: Bumper & 5*M5 Screws



9* Spare Cutting Blades & Screws



H: 2* Spare QR code



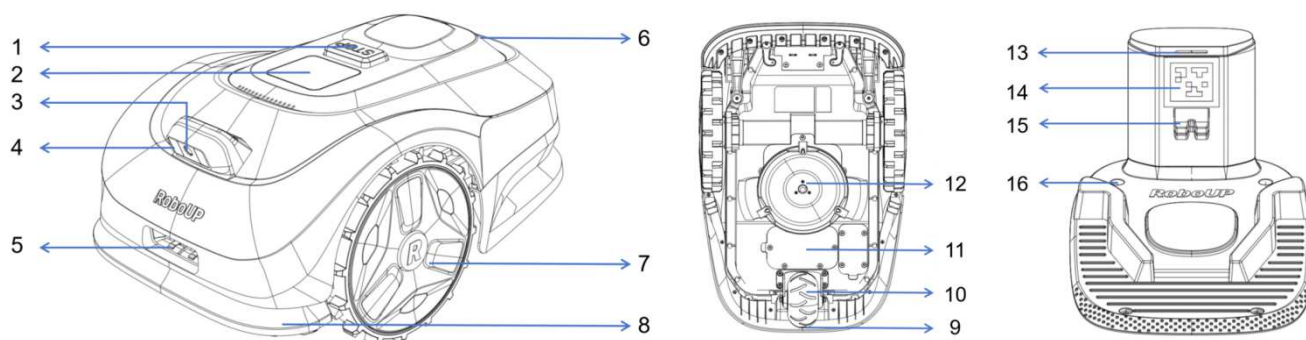
I: User Manual & Quick Start Guide

Note:

If there are missing or defective parts, contact RoboUP® After-Sales Service Team: service@iroboup.com. It is recommended to retain the original carton for future transportation and shipping.

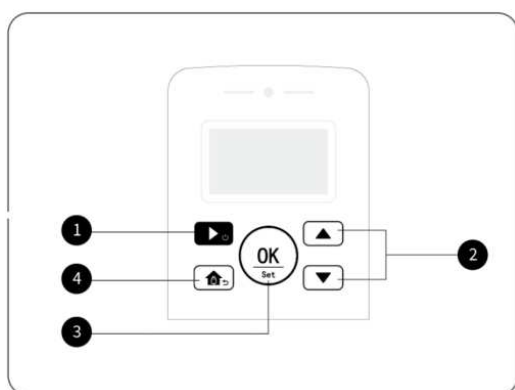
3 Parts and Functions

3.1 Mower



1. STOP button	9. Handle
2. Control panel	10. Rear wheel / Caster wheel
3. Camera	11. Battery
4. Light	12. Cutting disc (including 3 blades)
5. Charging port	13. Charging station status indicator
6. Rain sensor	14. QR code
7. Front wheel/ Drive wheel	15. Charging contact plates
8. Bumper	16. Holes for installing fixing screws

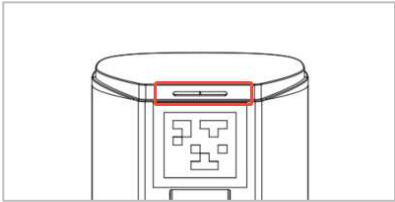
3.2 Control Panel



Control Panel (Keys & LC Display)

1. Long press the button to turn the mower ON/OFF. The button also triggers quick start mowing.
2. Use the and arrow buttons to navigate in the menu or to enter PIN code digits.
3. Press the OK button for quick access to the settings menu or to confirm the chosen settings in the menu.
4. Use the button to return the mower back to the Charging Station. It can be triggered only when you are in the "Welcome to use" page (top line).

3.3 Charging Station



LED Indicator of the Charging Station	
Solid Green	The Charging station is powered on.
No indication	The Charging Station is not power on.

4 Installation Guide

4.1 Bumper Installation

1.Position the Mower

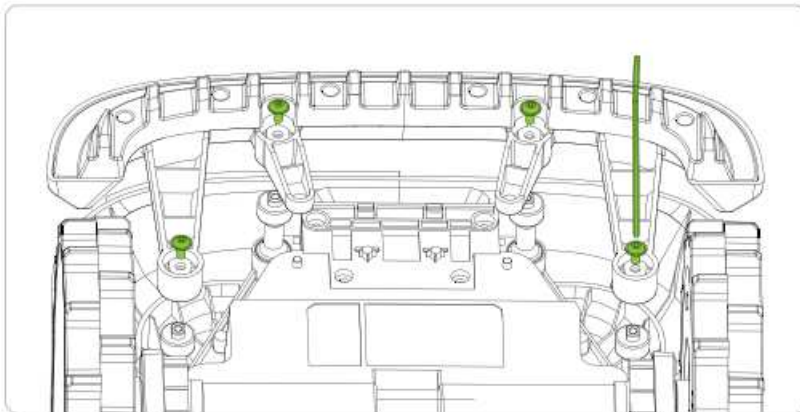
- Place the mower upside down with its reverse side facing upward.

2.Align the Bumper

- Align the four mounting holes on the bumper assembly with corresponding holes on the machine's forward-facing end.
- Ensure the bumper's serrated side faces toward you.

3.Fasten the Bumper

- Prepare four M5 screws. Take one M5 screw and insert it into a hole.
- Using the correct Allen key, fully tighten this screw.
- Repeat steps above for the remaining three screws.



4.2 App Installation

- 1.Scan the QR code to download the RoboUP App. You can also download the app at: <https://play.google.com/store/apps/details?id=com.tb.mower>

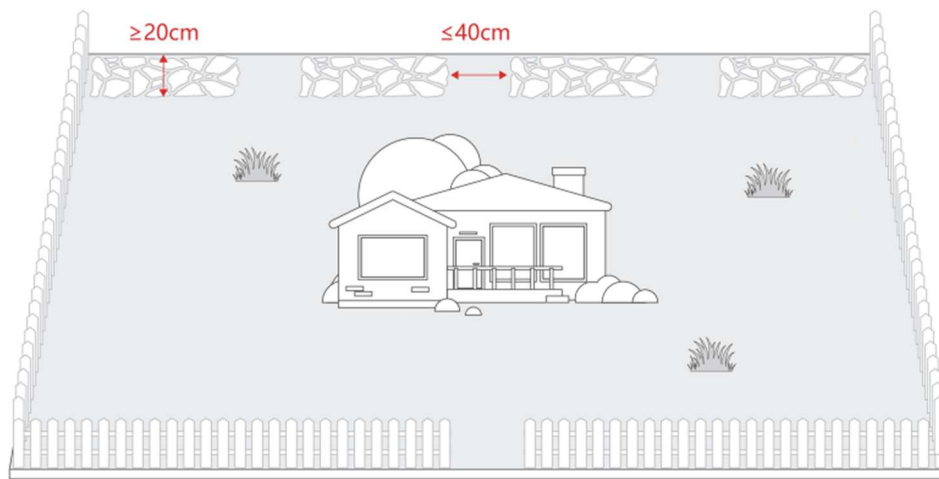


- 2.Launch the RoboUP App after installation, register your account and log in.
- 3.Connect your smart phone with your home Wi-Fi network, which you want the mower to connect with.

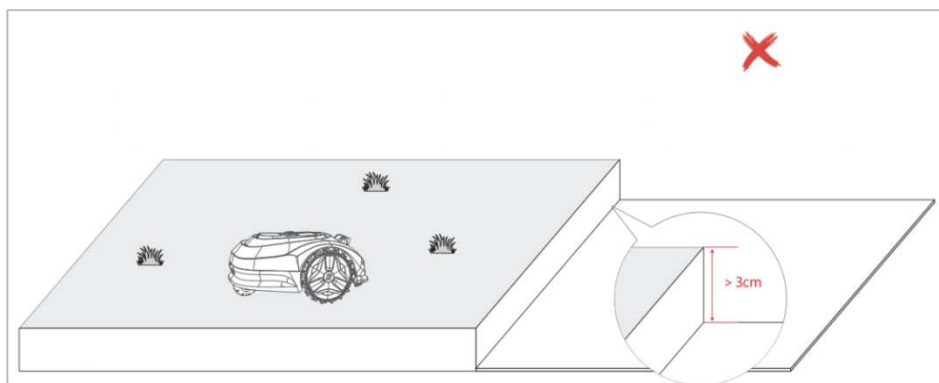
4.3 Check and Prepare your Lawn

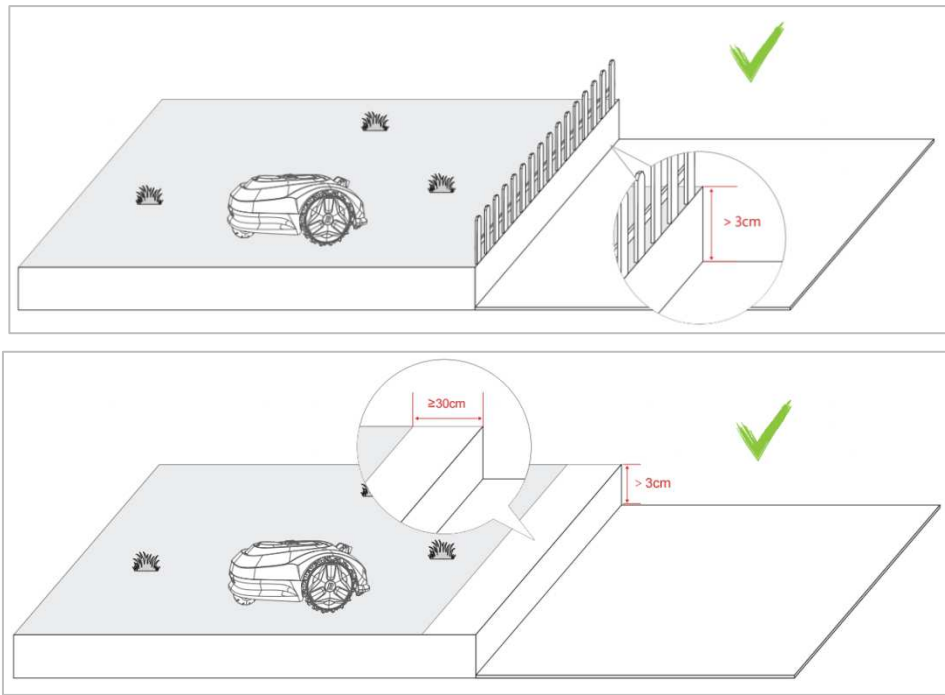
No boundary wire or antenna installation, no maintenance or signal concern. With Raccoon 2 SE technology it knows where the boundary is, automatically mowing the lawn areas via grass and no-grass identification. To ensure its safety navigation around your lawn area, there are some scenarios that need to be paid special attention to.

1.Clear lawn boundaries with identifiable features, such as walls, bricks, stones, fences, hedges, etc. that are not grass. For scenarios with unclear boundaries, you may create your own physical boundaries (do not use reflective objects). The width of physical boundary should be at least 20 cm, with no height restrictions. If multiple segments of physical boundaries are used, ensure that the gap between each segment does not exceed 40 cm to prevent the machine from crossing the boundary.

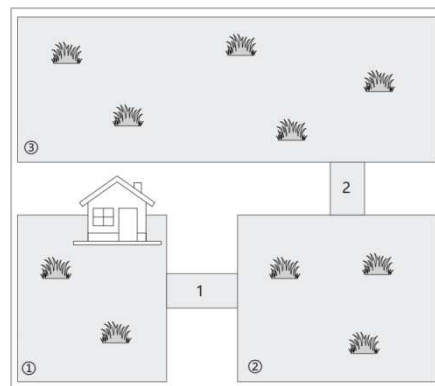


(1) If the boundary is a ditch or cliff more than 3cm deep, put up a fence or protective wall to prevent the mower from getting stuck or falling over. You can also cut the long grass covered on the edge to create a visible and horizontal boundary with least width of 30cm so that the mower can recognize it and won't pass by.

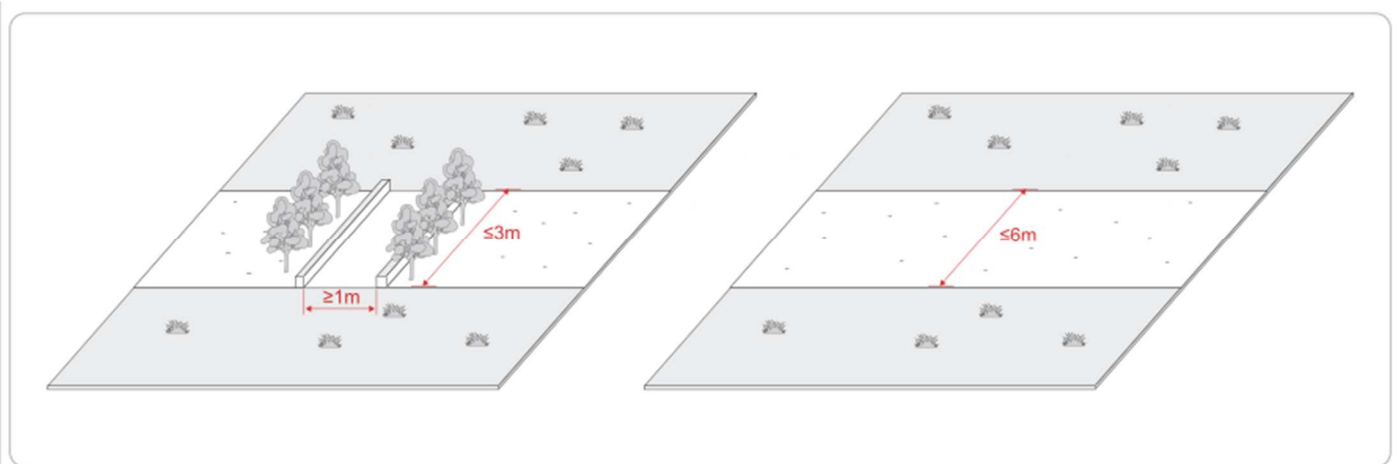




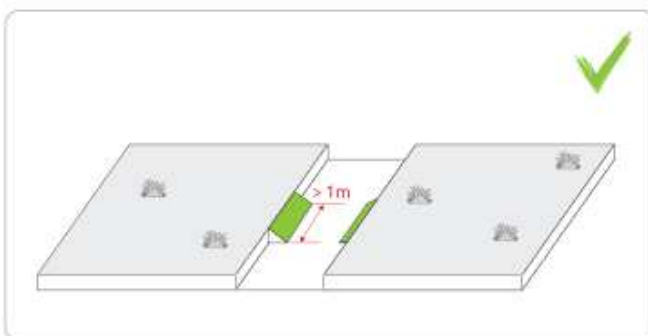
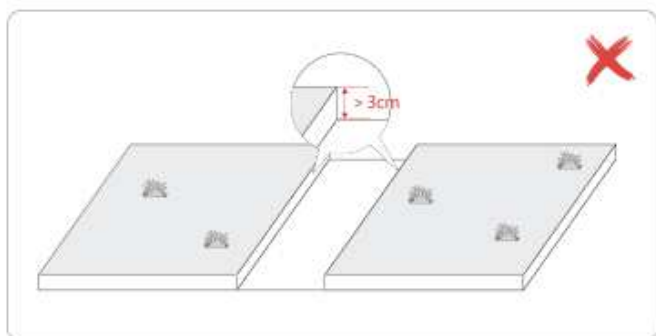
2. The total lawn area should be $\leq 500 \text{ m}^2$, and the number of lawn zones should be ≤ 3 .



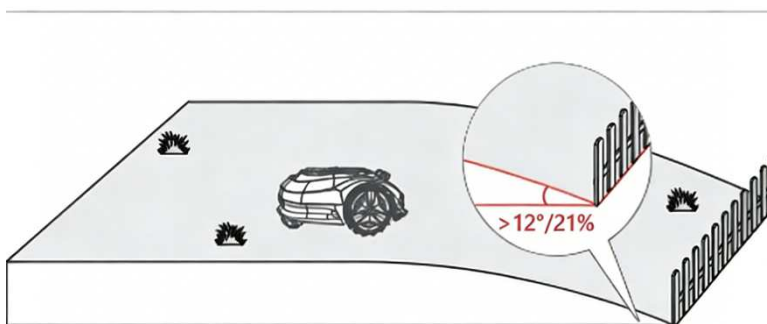
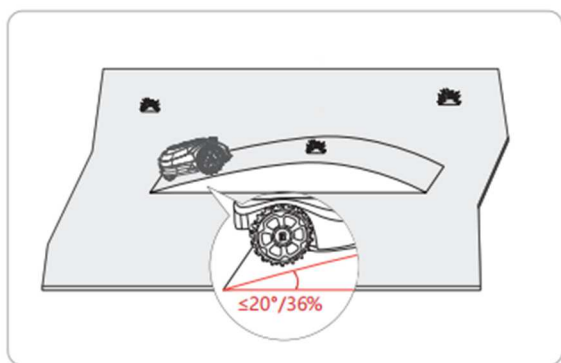
(1) If there are multiple zones and the passage between each zone has raised obstacles on both sides, the width of the passage should be $\geq 1\text{m}$ and the length $\leq 3\text{m}$. If there are no raised obstacles on both sides of the passage between zones, the length of the passage should be $\leq 6\text{m}$. These requirements are to ensure the smooth passage of the mower. However, if the passages in your lawn do not meet these requirements, the mower can still attempt to navigate them. If any issues arise, please contact after-sales service.



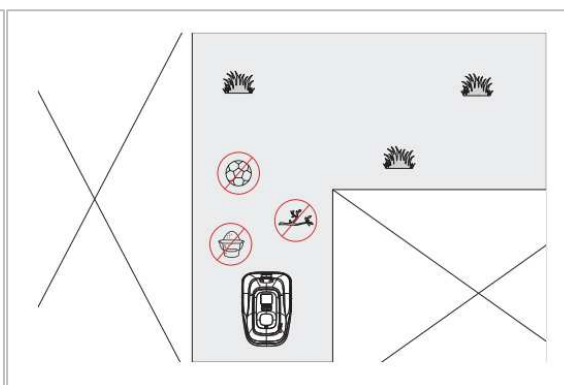
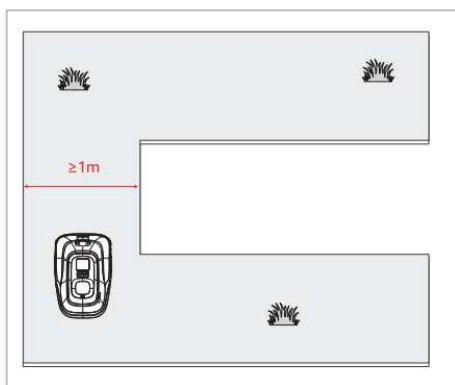
(2) To ensure passability, the vertical drop between the passage and the lawn should be $\leq 3\text{cm}$. If there is a drop of $>3\text{cm}$ between the passage and the lawn, a gentle slope needs to be constructed to allow the mower to pass, ensuring that the height of any steps along the path between zones is $\leq 3\text{cm}$.



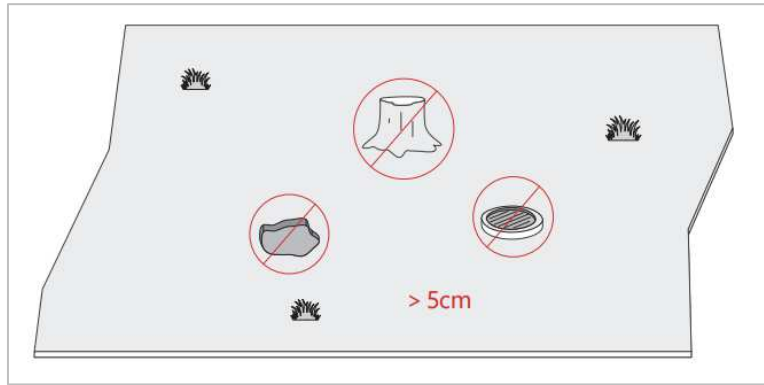
3. The slope of the lawn should be less than $20^\circ/36\%$, and the slope of the lawn boundary should be less than $12^\circ/21\%$. For slopes larger than $12^\circ/21\%$ and adjacent to open area like a public road, please use a fence or a flat area of at least 30 cm without grass at the downhill to prevent the mower from falling out of the border.



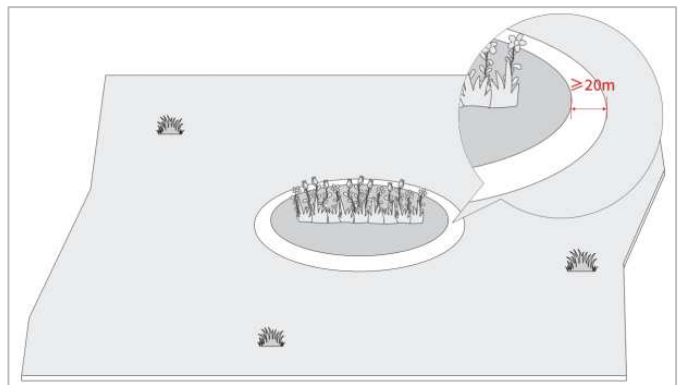
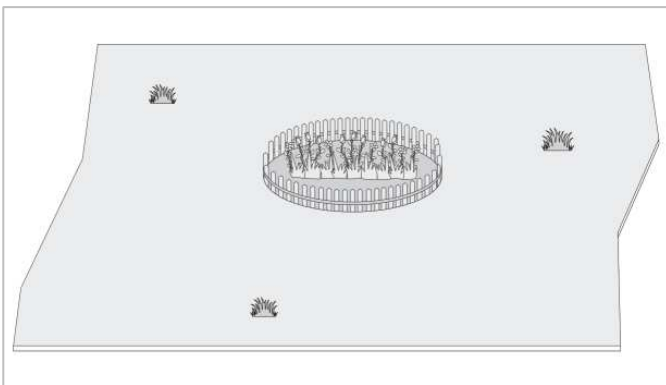
4. The width of narrow paths within the lawn should be $\geq 1\text{m}$; otherwise, the mower may not be able to enter or pass through the area. Additionally, please remove any obstacles in the narrow passages to ensure the mower can pass smoothly.



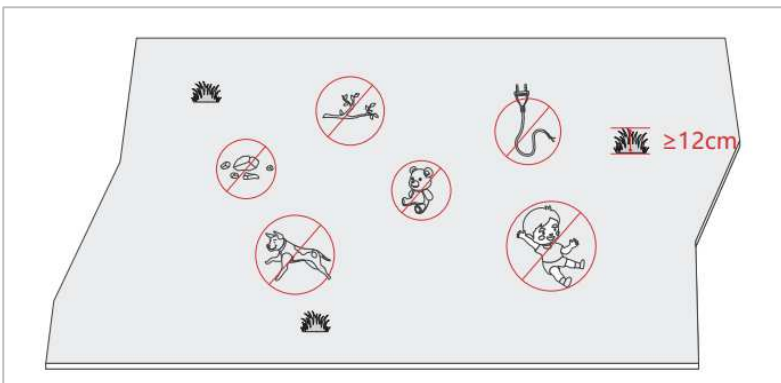
5. If there are bumpy areas with a vertical drop of more than 5cm, such as tree roots, pits, drainage outlets, etc., the mower may not be able to pass through. Please fill these uneven areas.



6. For short flower beds that look similar to grass, it is recommended to put a physical boundary around (e.g. bamboo fence) for protection from being cut by accident. You can also dig out the grass covering the edge to create a clearly visible boundary (min. width of 20cm) so that the mower can detect the edge.

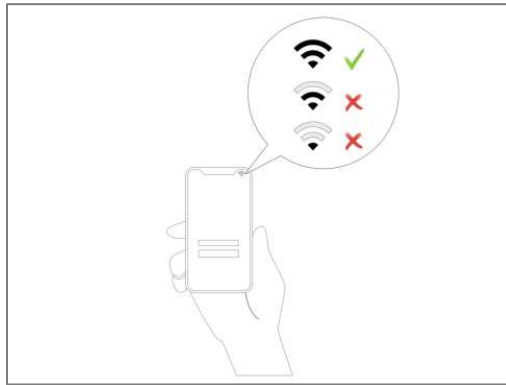


7. Before using the mower to start mowing, please trim the lawn to a height of no more than 12cm and ensure that each cutting range does not exceed 4cm. For example, if the grass height is 10cm, set the cutting height between 6-8cm. Remove debris, piles of leaves, toys, wires, stones, and other obstacles. Ensure that children and pets stay away from the lawn.



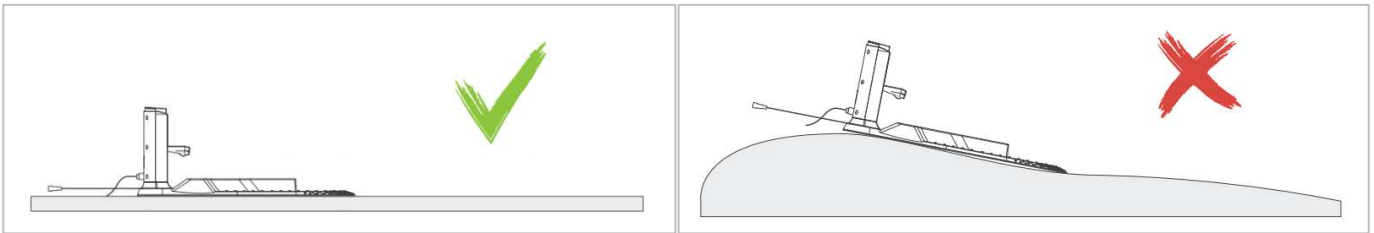
4.4 Plan for the Charging Station

1. Strong Wi-Fi signal is needed for Wi-Fi connection and firmware upgrades.



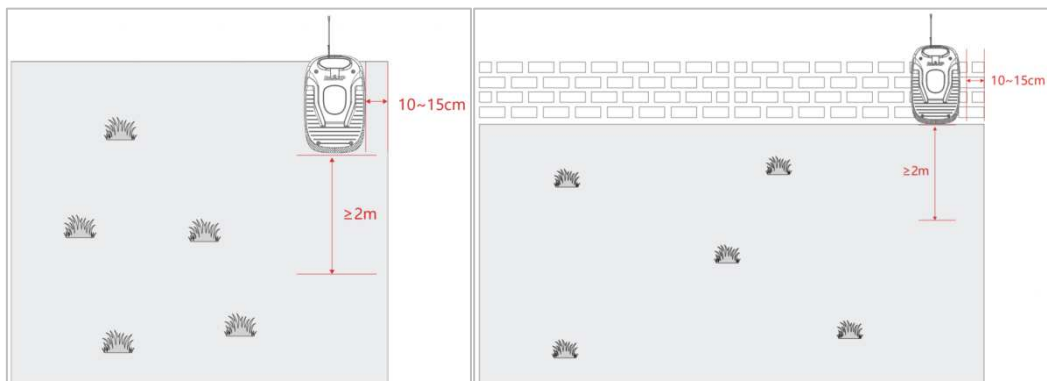
2. If possible, choose a shaded position as batteries and chargers don't like over-heating.

3. The Charging Station must be placed on flat ground, with the 2-meter area in front of it free of slopes to ensure proper docking.

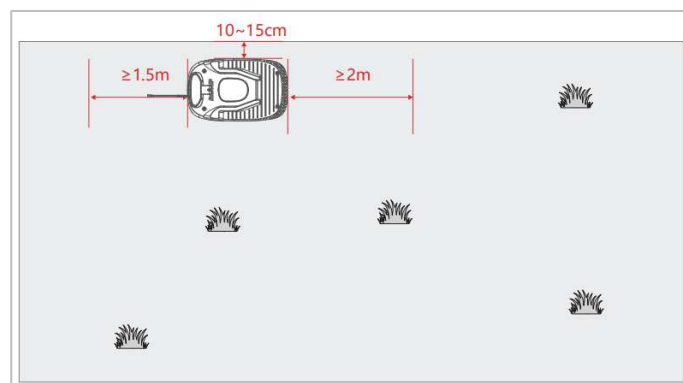


4. There is not a large area of bare ground or sparse grass or any obstacles within the 2m straight driving path in front for the mower following the edge and entering the Charging Station.

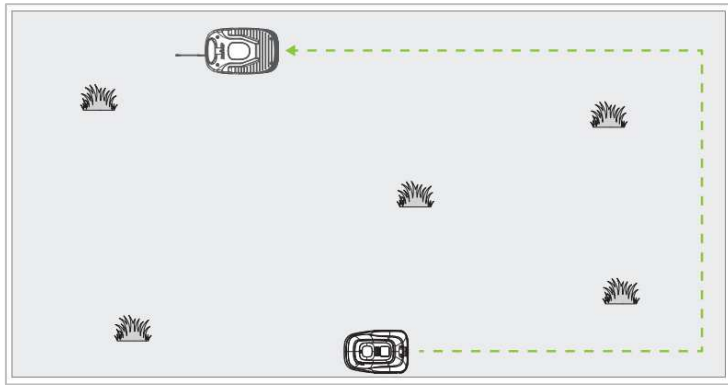
5. If the Charging Station is placed in the corner of the lawn, the distance between the Charging Station and the lawn boundary is 10-15cm. In order to enter the Charging Station, the Charging Station should be placed in the lawn area or the Charging Station needs to be close to the lawn boundary.



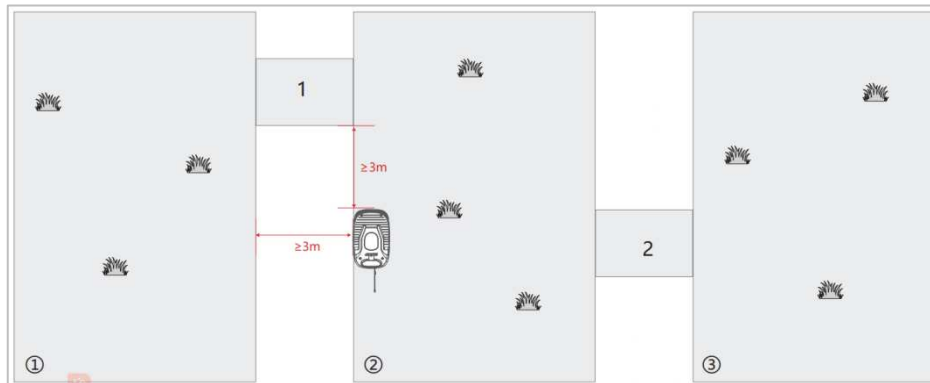
6. If the Charging Station is placed at the boundary of the lawn, the distance between the Charging Station and the lawn boundary is 10-15cm, and it needs at least 1.5 m behind the Charging Station to make sure the grass can be cut.



7. To allow the mower to access the Charging Station while moving counter-clockwise along the lawn boundary, the Charging Station needs to be oriented in a clockwise direction.



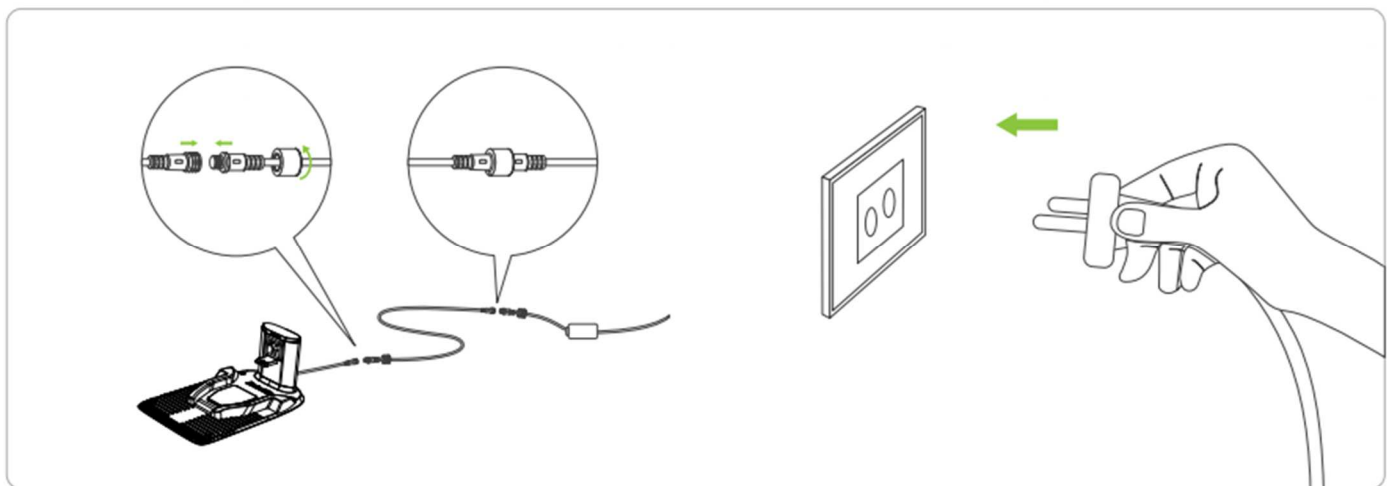
8. If there are multiple zones, the distance between the Charging Station and the passage should be $>3\text{m}$, and the distance between the Charging Station and another zone should also be $>3\text{m}$.



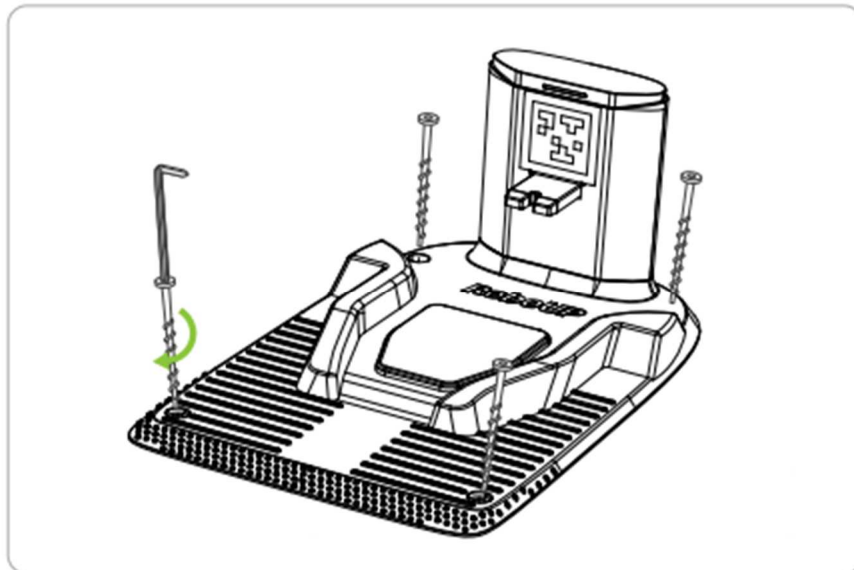
9. If the Charging Station is relocated, remapping is required.

4.5 Install the Charging Station

1. Place the Charging Station on the target spot.
2. Connect the Charging Station to the power supply DC outlet connector. Use an extension cable as needed. Plug power supply into a mains AC power socket.

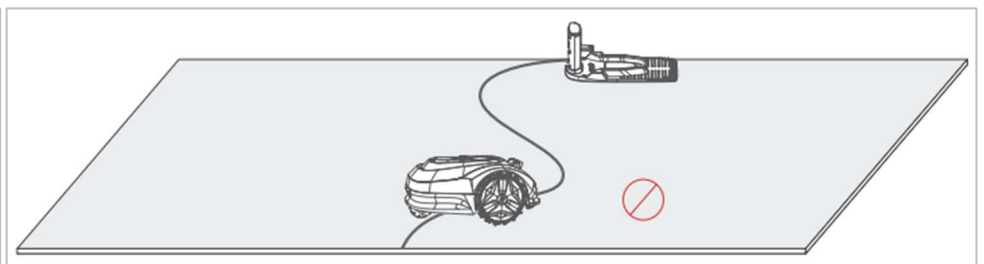
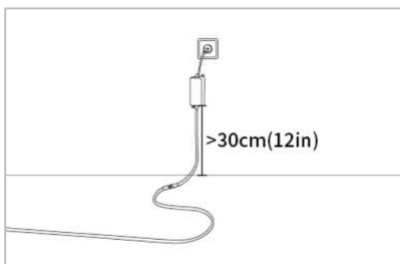


3. Use the supplied long anchor screws and Allen key to secure the Charging Station to the ground.



Warning:

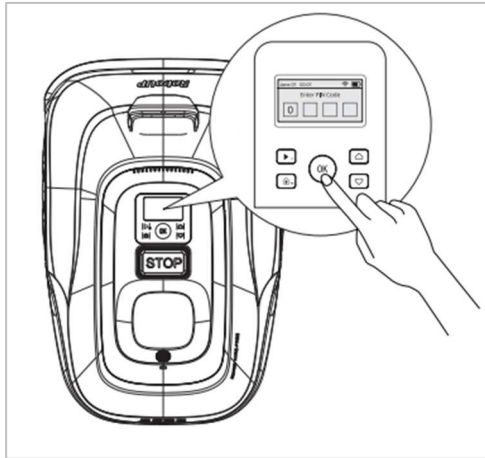
- When connecting the power supply to mains power socket, use a residual-current device (RCD) with a tripping current of maximum 30 mA.
- Do not put power supply cable and extension cable into the work area, After confirming the mower is normally charged, secure the extension cable on the ground or hedge with the attached pegs or nylon zip ties to prevent the mower cutting the cable. Keep the power adapter at least 30cm (12in) above floor level to avoid possible damages caused by rain or water flooding.



- Do not connect a damaged cable or plug, or touch a damaged cable, before it is disconnected from the power outlet. Disconnect the plug from the power outlet if the cable becomes damaged while in operation. A worn or damaged cable increases the risk of electrical shock. A damaged cable must be replaced by authorized service personnel.
- DO NOT charge if mower, power supply, Charging Station, or power socket is wet or damaged.
- DO NOT charge mower when ambient temperature is above +50°C (122F), or below 0°C (32F).
- When there is an abnormal smell, sound, or light display, stop charging immediately and contact RoboUP® after-sales service team.
- Keep away from inflammable and explosive materials when charging.

4.6 Charge and Activate the Mower

1. A new mower may have a low battery after long storage. Push the mower into the Charging Station. Make sure the mower's charging contacts and the contact blades on the Charging Station are in good contact.
2. Press and hold the  button for 3 seconds to start the mower. Input default PIN "0000" and press the OK button 4 times consecutively to unlock mower).



3. Enable Bluetooth on your smart phone, start RoboUP App and follow instructions to pair the mower.

4.7 Change the PIN Code

1. Access Settings:

- On the mower's display, select "Settings" and press the **[OK]** button to enter the setup menu.

2. Select PIN Change Option:

- Choose "Change PIN Code" and press **[OK]**.

3. Enter Default PIN:

- Input the initial PIN code: 0000.

4. Set New PIN:

- Use the  /  buttons to adjust digits for your new PIN.
- Re-enter the new PIN in the "Confirm" field to finalize the change.

5 Set Up the Working Area

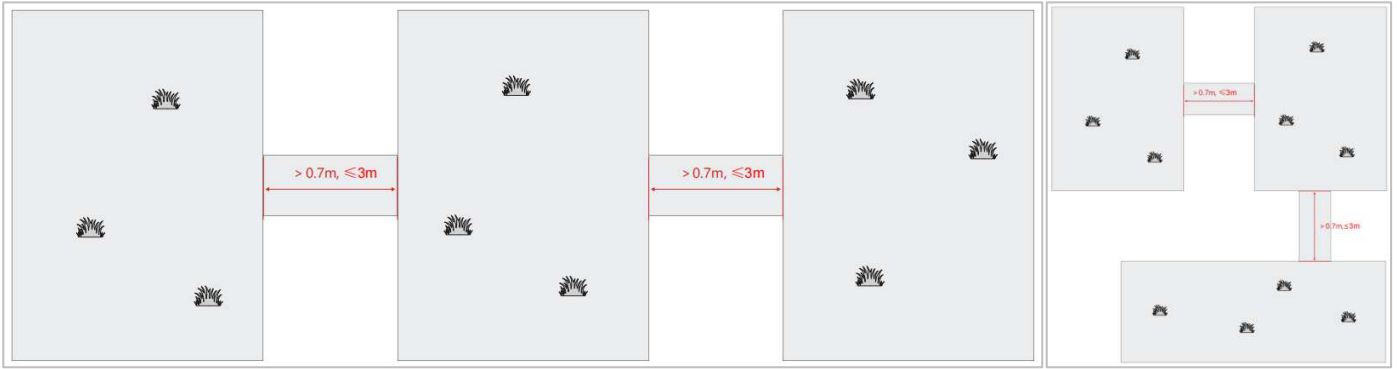
5.1 How to Create a Map

1. Before the mower starts working, please set the working area first.

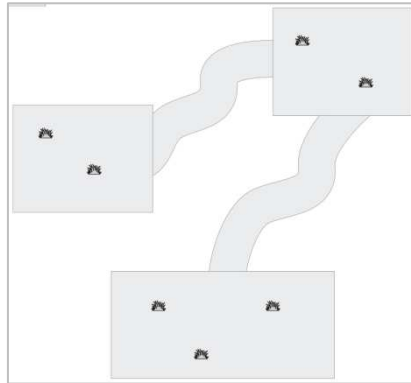
2. The Raccoon 2 SE offers two mapping methods: auto mapping and manual mapping. You need to choose based on your lawn conditions.

(1) If your lawn has only one zone, both auto and manual mapping are suitable.

(2) If your lawn has 2-3 zones with straight passages between them, and the passage length is $>0.7\text{m}$ and $\leq 3\text{m}$, both auto and manual mapping are suitable.



(3) If your lawn has 2-3 zones with passages that are not straight, or if the passage length is $>3\text{m}$ or $\leq 0.7\text{m}$, please select manual mapping.

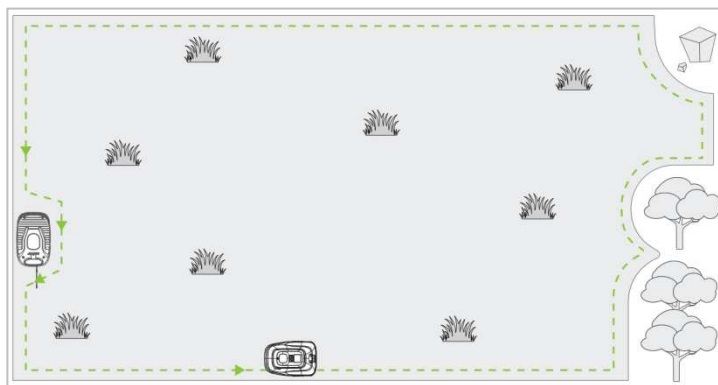


3. Before creating the map, prepare the lawn as described in Chapter 4, and install the Charging Station and beacons.

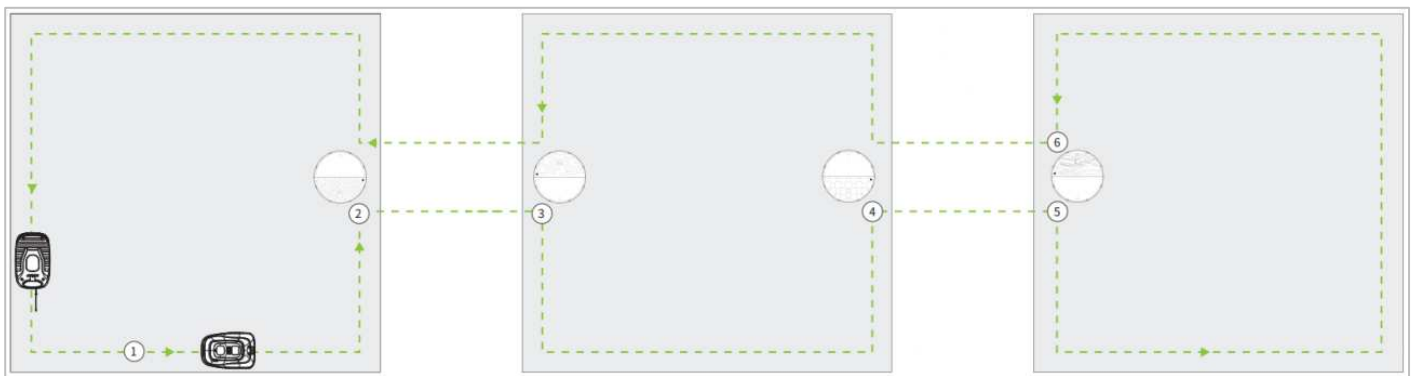
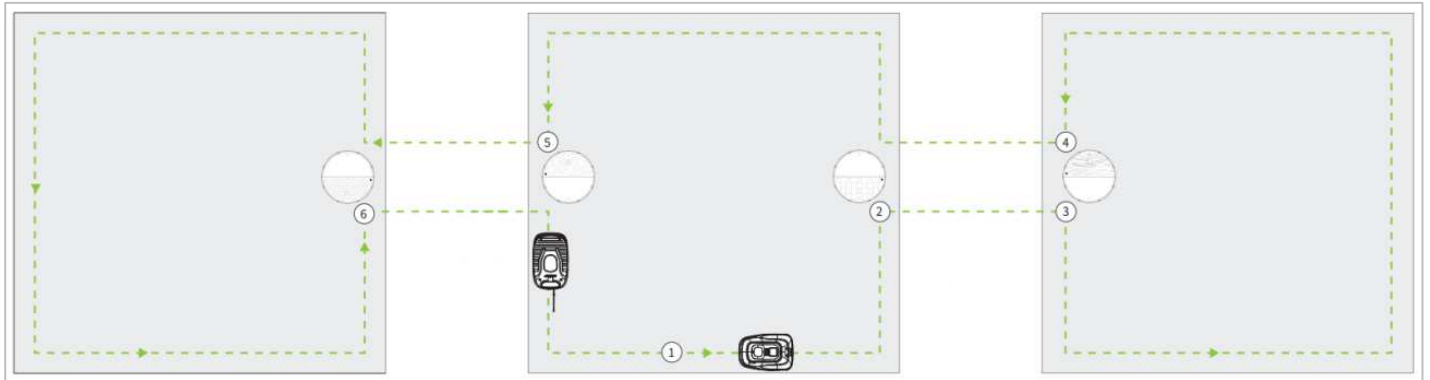
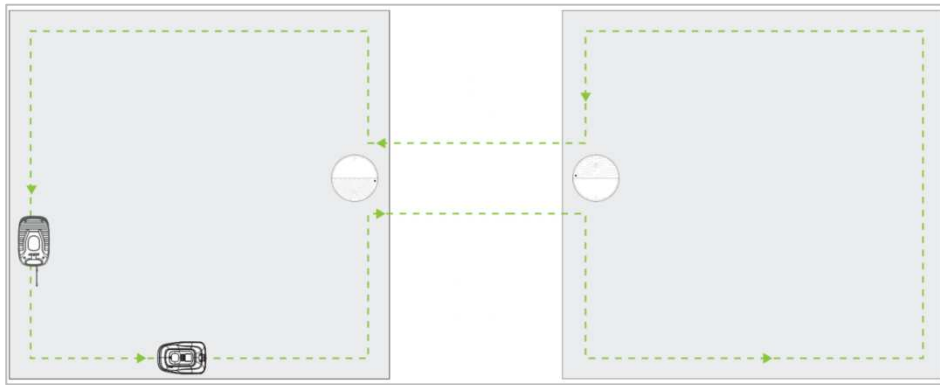
5.2 Auto Mapping

1. Please check the status of the mower, make sure that the mower is turned on, the power is more than 30%, and it is on the Charging Station.
2. On the LCD screen, select "Auto Mapping.", or follow the App instructions, click "Create Map", select the number of lawn zones, and then choose "Auto Mapping."
3. The mower will automatically exit the Charging Station and move counterclockwise along the detected lawn edge.

A. If the lawn has only one zone the mower will return to the Charging Station along the lawn boundary.



B. If the lawn has multiple zones the mower will explore other zones through beacons as shown in the figure below. If the mower cannot recognize the beacon please check whether the beacon installation meets the requirements(Refer to Section 5.2.1 Plan for the Beacons).

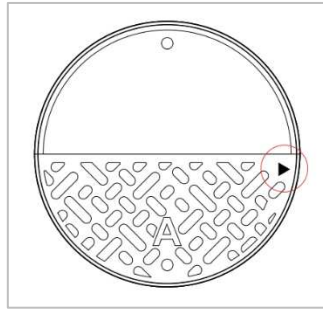


4. When the mower returns to the Charging Station along the lawn boundary, the map is created.
5. After auto mapping creation is completed, please remove the beacon to avoid interference when the mower passes through passages.
6. The mower is ready to start working.

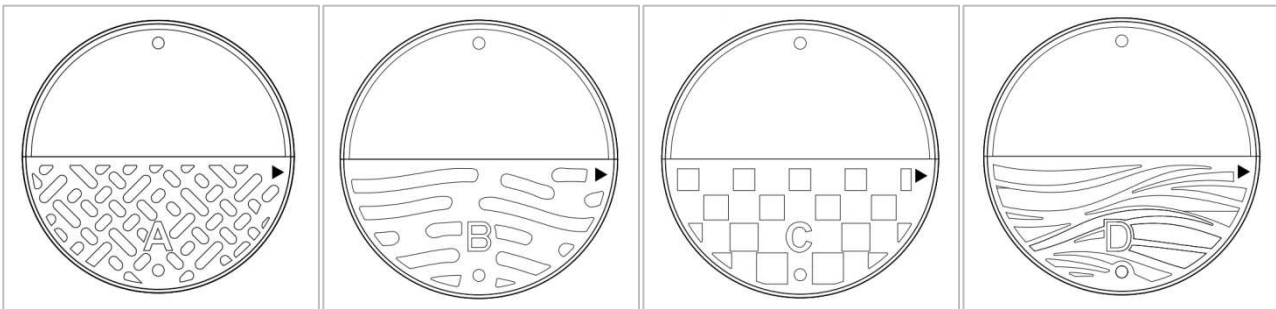
5.2.1 Plan for the Beacons

1. What is a beacon?

- (1) The Raccoon 2 SE supports up to 3 zones. Before the mower starts working, you need to create a map for it to define its working areas. The Raccoon 2 SE supports both auto mapping and manual mapping. You will need to choose the mapping method based on your lawn scenario, which will be explained in detail in Chapter 5.
- (2) If you use the auto mapping function, beacons must be installed to help the mower navigate the passages and move between different zones. If you use the manual mapping function, you can choose not to install beacons. However, when controlling the mower to pass through a passage during mapping, you need to remember the starting and ending points of the passage to ensure the mower returns to the same starting or ending point.
- (3) If your lawn setup does not meet the beacon installation requirements, please use manual mapping.
- (4) The beacon contains directions, with arrows visible on the front, pointing in the direction of the passage.



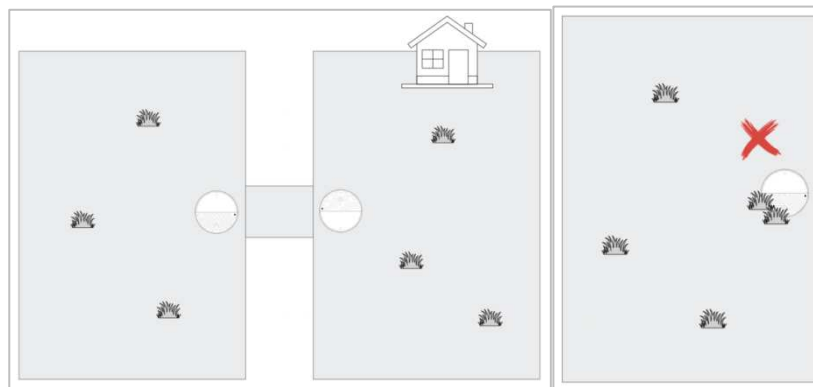
(5) Different beacons have different patterns or colors on the front and different numbers on the back. Multiple beacons may be used in one usage scenario. Please make sure that each beacon is different.



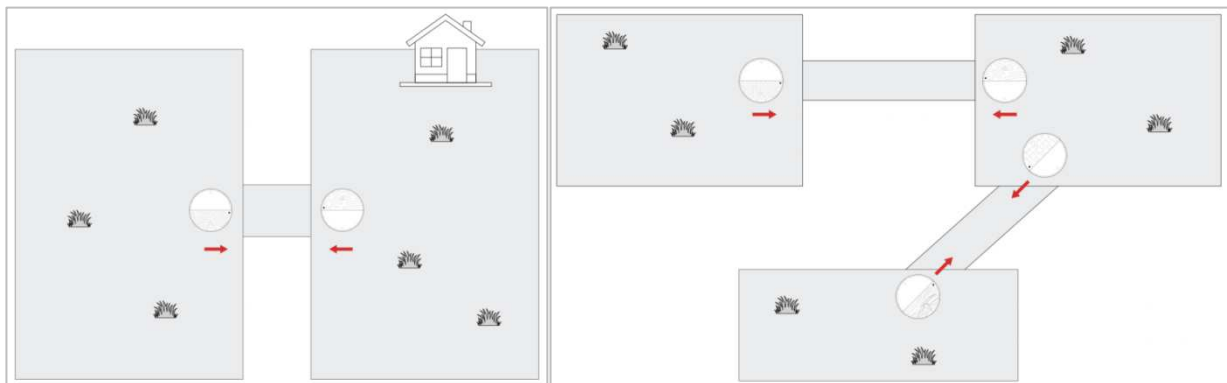
(6) Please use the beacons when the lawn is dry to avoid water damage. After the mapping is completed, the beacons should be removed and do not need to be permanently installed on the lawn.

2. Beacon Installation Requirements

(1) Beacons need to be installed on the lawn adjacent to the passages. Please ensure that the grass around the beacons is trimmed so that it does not block the beacons.

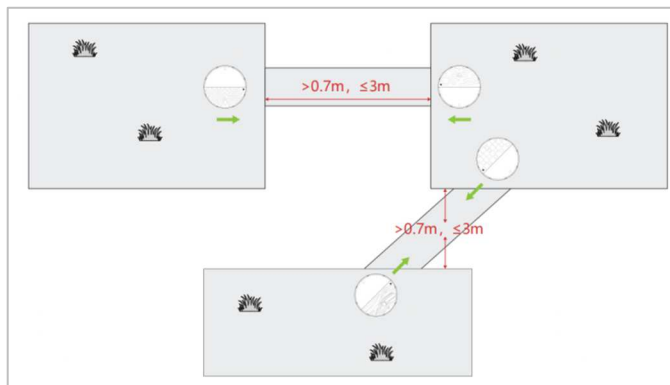


(2) Please install the beacons on the lawn next to the passage, with the arrow on the beacon pointing in the direction of the passage.

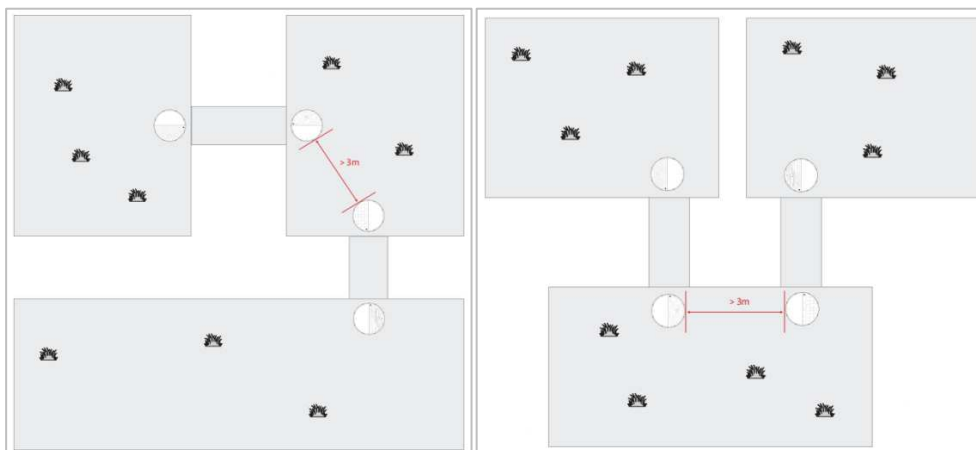


(3) The minimum distance between two zones with installed beacons must be greater than 0.7 meters and no more than 3 meters to prevent the lawn

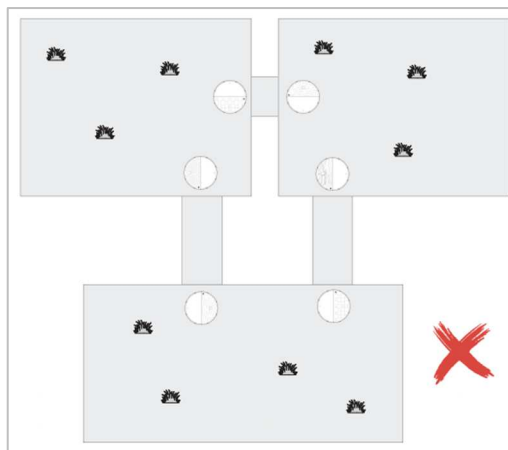
mower's camera from incorrectly identifying beacons in other zones.



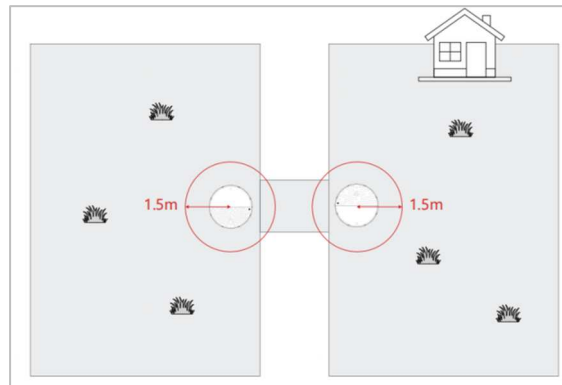
(4) If there are two beacons near the boundary of a zone, make sure the distance between the two beacons is more than 3m.



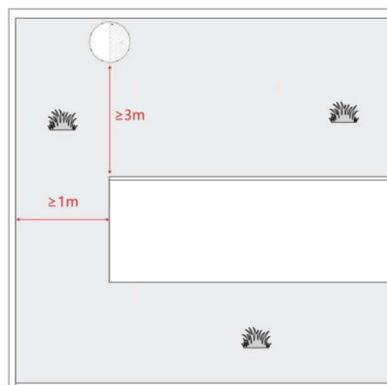
(5) Beacons cannot be used to connect the 3 zones into a closed loop.



(6) A 1.5-meter radius around each beacon must be free of three-dimensional obstacles (e.g., walls, large rocks, or dense shrubs) to prevent the mower from bypassing the beacon due to obstacle avoidance.

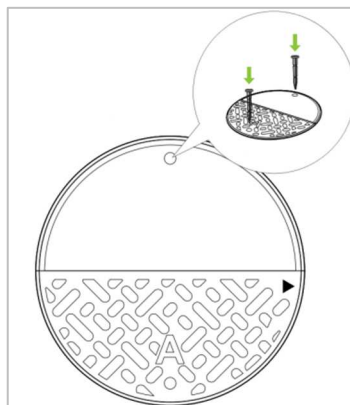


(7) Beacon must be installed at least 3 m away from narrow paths.

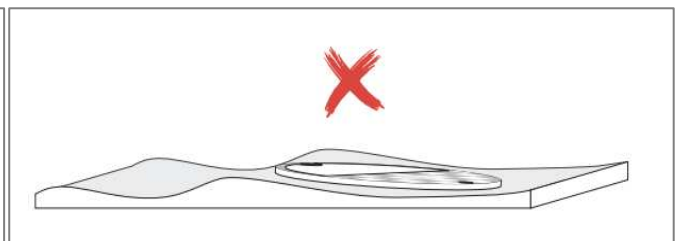
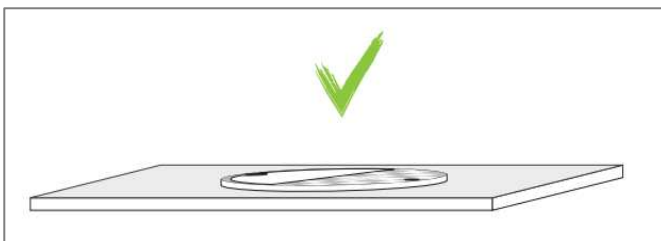


5.2.2 Install the Beacons

1. Place the beacon on the target spot.
2. Use the supplied short fixing screws to secure the beacon to the ground.



3. The beacon needs to be fixed as horizontally as possible.



4. After the mapping is completed, the beacons should be removed and do not need to be permanently installed on the lawn.

5.3 Manual Mapping

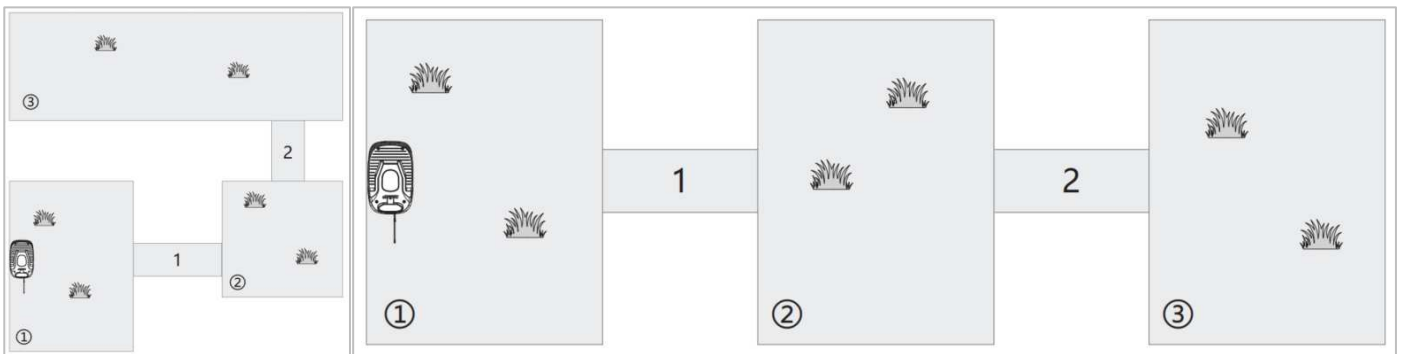
1. Please check the status of the mower, make sure that the mower is turned on, the power is more than 30%, and it is on the Charging Station.
2. Follow the App instructions, click "Create Map," select the number of lawn zones, and then choose "Manual Mapping."
3. The mower will automatically exit the Charging Station, and the App will switch to the remote control interface.

A. If the lawn has only one zone—control the mower to move counterclockwise along the edge. When the mower returns to the Charging Station—you can save the map. After a brief wait, the map creation will be completed.

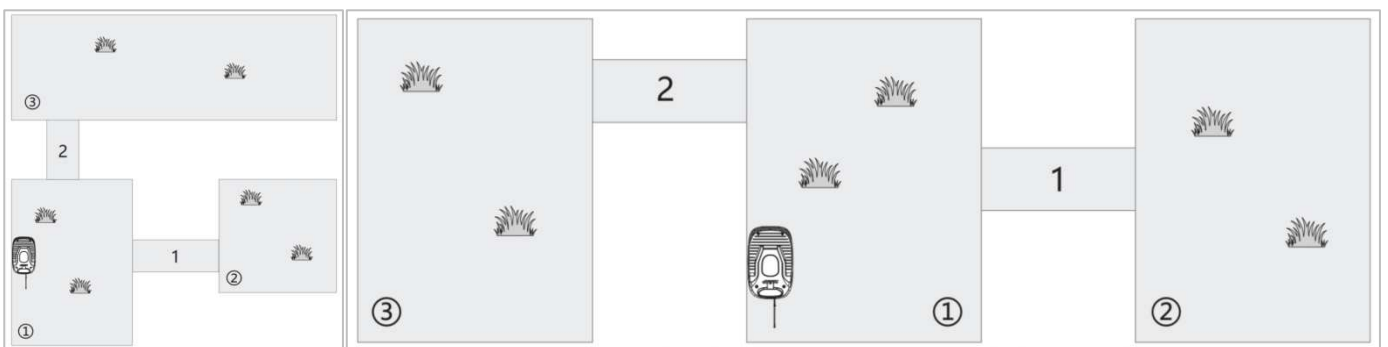
B. If the lawn has 2 zones—please note that the lawn and passages are created in one go. Click the corresponding button when controlling the mower to pass through the passage.

C. If the lawn has 3 zones—the process is similar to that for 2 zones.

- ① Control the mower to move counterclockwise along the edge of the first zone. When it reaches near the passage, click "Enter Passage" on the app and confirm the starting point of the passage in the pop-up window.
 - ② Control the mower to pass through the passage. When it reaches the second zone, click "Exit Passage" and confirm the endpoint of the passage in the pop-up window.
 - ③ Control the mower to move along the edge of the second zone. When it reaches near the passage, click "Enter Passage" on the App, confirm the starting point of the passage in the pop-up window, and choose whether to proceed to the third zone or return to the zone where the Charging Station is located.
- If the layout has 3 zones as described below, and the mower reaches the second passage within the second zone, please select "Third zone" in the pop-up window.



- If the layout has 3 zones as described below, and the mower returns to the first zone within the second zone, please select "Charging Station zone" in the pop-up window.



- ④ Continue to control the mower to pass through the passage, click "Exit Passage," and confirm the endpoint of the passage in the pop-up window.
- ⑤ Continue to control the mower to move along the edges of the remaining zones. Each time it reaches a passage, click "Enter Passage" and "Exit Passage" in sequence. Eventually, it will return to the zone where the Charging Station is located. When the mower returns to the Charging Station, the map creation is complete.

NOTE:

- During manual mapping, keep the mower within $\leq 15\text{cm}$ of the lawn boundary to ensure it can detect the boundary.

- For multi-zone manual mapping, if beacons are not installed, use other reference points to ensure that the position when passing through the passage is consistent each time, with a deviation of $\leq 20\text{cm}$. This means that when clicking the same button, the deviation in the mower's position should be $\leq 20\text{cm}$.
- During manual mapping, ensure that the mower moves in a counterclockwise direction.
- Complete all manual mapping (single-zone & multi-zone) in one continuous session.

6 Operation

1. Start Mowing

There are three methods to start mowing.

- A. The mower will automatically start mowing in preset mowing schedule after the above installation steps are done.
- B. Tap the "Mow" button in the App to manually start mowing.
- C. Press the  button on the mower control panel and confirm with "OK" to start mowing.

2. Pause Mowing

- A. Simply press the "STOP" button on the mower.
- B. Tap the "Pause" button on the App.
- C. The mower will pause and show error code when it encounters issues that need to be fixed manually.

3. Resume Mowing

- A. Continue mowing by tapping the "Mow" button on the App.
 - B. Press  button and then "OK" button on the control panel to continue mowing.
- Note: When the mower is in an emergency stop state, you need to enter the PIN code to resume mowing.

4. Return to the Charging Station

- A. The mower will return to the Charging Station automatically when the battery is low, or when it has finished mowing.
- B. You can also send the mower back to the Charging Station manually:
 - 1) Tap the "Charge" button on the App.
 - 2) Press  button and then "OK" button on the control panel when the mower is in standby mode.
- C. When the end of the schedule is reached, the mower will return to the Charging Station automatically.
- D. If the mower detects rain, or if the mower has been scheduled with a no-mow time, it will automatically return to the Charging Station, ensuring that mowing pauses during these periods.

5. Turn Off the Mower

Press and hold the  button on the control panel and enter the PIN code to turn off the mower.

Note:

- The mower cannot be turned off when it is in the Charging Station for charging.
- It is recommended to turn off the mower only for transportation or long-term storage.

6. Mowing Settings

When the work area is successfully set, you can customize the mowing settings on the App.

A. Cutting height

According to the desired grass height, select the cutting height on the App or the control panel, and the mower will automatically adjust the blade disc height when it starts mowing your lawn.

B. Zone mowing

Set the mowing mode in the App, with the default being "Mow+Edge". "Mow" means the mower mows randomly across the lawn without edging. "Edge" means the mower mows once clockwise and once counterclockwise around the edge, without random mowing. "Mow+Edge" means the mower starts with random mowing inside the zone and finishes with edge trimming.

C. Edge mowing

If you select "Edge" or "Mow+Edge", you can choose the edge mowing method, with the default being "Cut-to-Edge". "Cut-to-Edge" means the mower

mows along the edge from inside the lawn. "Ride-on-Edge" means that if the mower detects a flat, hard boundary like slate or concrete, it will ride on the boundary to achieve a precise cut.

D. Mowing time

When the work area is set up, the App will automatically generate a recommended mowing time based on mowing efficiency and map area, which refers to the time required to cover all lawns. You can check the recommended times on the App's "Schedule Mowing" in More Settings. The recommended time is only a reference, you can adjust the lawn mowing time for each zone according to your needs.

E. Schedule mowing

Set a mowing schedule for different zones on the App, and the mower will cut the grass within your set time to keep your lawn fresh and tidy. You can customize the start time, end time, repeat period, and you can edit, close, and delete schedules. Please consider that if the lawn is complex with many obstacles or with multiple zones, it might require more time and multiple schedules to cover the whole lawn. The App's main interface will display the most recent scheduled task.

F. Wildlife Safe Mode

Please note that the mower's night vision is limited due to its reliance on visual sensors. For the protection and safety of animals, please set Wildlife Safe Mode for nighttime hours (default: 20:00-6:00). Due to seasonal changes in darkness duration, please adjust the Wildlife Safe Mode time if the mower operates abnormally during night hours.

G. Rain mode

Cutting wet grass can lead to plant fungal diseases and soil damage. The mower's rain sensor is enabled by default, and when it is enabled, the mower will automatically return to the Charging Station as soon as it detects rain. You can also set a rain delay time, which defaults to 3 hours, which means that after the rain stops, the mower will wait a while for the grass to dry before continuing to mow.

7. Spot cutting

In some uncut areas, you can use the Spot Cutting function. Please remote control or move the mower to the designated position to start spot mowing, the mower will cut in a square spiral pattern within a 2m × 2m area centered on the mower.

8.Remote mowing

When you control the mower remotely, you can also choose to enable the blade to mow. Please keep a distance of 2 meters from the mower to ensure safety. If no control action is detected for 5 seconds, the blade will stop rotating.

9.Target Area

If there is a single flat area less than 80 m² with clear boundaries, you can use the Target Area function. Just place the mower in the area without creating a map. In this mode, the mower automatically stops at the same place after working for a specified time or when the battery is low. You can choose parallel lines or random mowing pattern.

10.Over-The-Air(OTA)

If the mower is connected to the cloud server via your home Wi-Fi, the mower's firmware can be easily upgraded

7 Specifications

Basic Information	Dimensions L*W*H (mm)	617*408*288
	Net Weight (kg)	11.5
Mower Parameters	Working Capacity (m ²)	≤ 500
	Max. Working Capacity (m ²)	≤ 600
	Charging Time (min)	≤ 70
	Full Charge Time (min)	≤ 100
	Typical Mow Time on One Charge (min)	≤ 150
	Noise Sound Level (dBA)	≤ 56
Working Conditions	Max. Slope (%)	20°/36%
	IP Rating	IPX6, hose washable
	Working Temperature (°C)	3...50
	Charging Temperature (°C)	4...50
	Storage Temperature (°C)	-20...+50
Battery Pack	Battery Type	Lithium-Ion
	Nominal Capacity (Ah)	5
	Nominal Voltage (Vdc)	18.0Vdc
	Battery Management System	Over-heating, short circuit, over-current and over-charge protection
Power Supply	Mains Input Voltage (Vac)	100...240Vac
	Output Voltage (Vdc)	24V±0.2Vdc
	Output Current (A)	3.0
Charging Station	Input Voltage (V)	24V±0.2Vdc
	Input Current (A)	3
	Output Voltage (V)	24V±0.2Vdc
	Output Current (A)	3
Cutting System	Blade QTY	3
	Cutting Height (mm)	30...80
	Cutting Width (mm)	200
	Cut-to-Edge	●
	Ride-on-Edge	●
	Manually Spot Cutting	●
	Floating Cutting Disc	●
	Electric Cutting Height Adjustment	●
	CW/CCW Rotating Blade	●
Navigation	IMU Navigation	●
	RTK Navigation	○

	VSLAM Navigation	●
	Smart Route Planning	○
Obstacles Avoidance	AI Camera Recognition	●
	Bumper	●
Smart Control	Information Panel	LCD
	App Smart Control	●
	App Connection Options	WiFi + BT
	Bluetooth Frequency Range	2.4GHz
	Wi-Fi Frequency Range	2.4GHz
Safety and Easy Use	Night Lighting	●
	Rain Sensor	●
	Update Option	OTA

8 Maintenance

To achieve better mowing results and increase service life, be sure to keep the mower clean and the blades in good condition inspection and maintenance should be carried out by an adult every week during continuous use. Any damaged or worn-out parts should be replaced. DO NOT perform maintenance when wearing open sandals or bare foot. Always wear long trousers and work shoes when servicing the mower.

8.1 Cleaning

Use a soft brush or cloth to clean the exterior of the mower thoroughly. DO NOT clean with alcohol, gasoline, acetone, or other corrosive/volatile solvents. These substances may damage the appearance and internal structure of your mower. For proper docking, periodically inspect and clean the Charging Station from debris and mud. Make sure all connecting parts of the Charging Station, the extension cable, and the power supply are not blocked.

A. Cameras

The AI camera requires regular cleaning to maintain a clear sight. The frequency of cleaning will vary from your mowing settings and conditions of your lawn. Check cameras weekly. Use a soft brush to clean dust on the camera first and use soft cloth with windshield washer fluid to clean the camera thoroughly.

B. Charging Port

The charging port of the mower needs to be cleaned regularly to ensure the reliability of the charging function. Please rinse the charging port with water, clean the grass clippings or water in the charging port with a rag, and then make sure that the charging port of the mower and the charging contact plates of the Charging Station are dry before putting the mower back to the Charging Station for charging.

C. Chassis and Blade Disc

If the chassis and blade disc is dirty, use a brush or a water hose to clean. DO NOT use a high-pressure washer. At the same time make sure that the blade disc rotates freely, and the blades can pivot freely.

CAUTION: High pressure water can leak into the seals and damage electronic and mechanical parts.

D. Wheels

Grass or mud on the wheels can affect the mower performance when climbing slopes. Keep wheels clean to ensure strong grip.

E. Rain Sensor

Check once a week and make sure the rain sensor is not covered by mud, grass or other objects. You can either wash it clean or clean with a soft brush.

Warning:

- Before cleaning, make sure the mower is powered OFF.
- When the mower is upside down, it must be powered OFF.
- To prevent internal water damage, always keep the machine upright (90°) or tilted at an angle greater than 60° when rinsing its bottom.

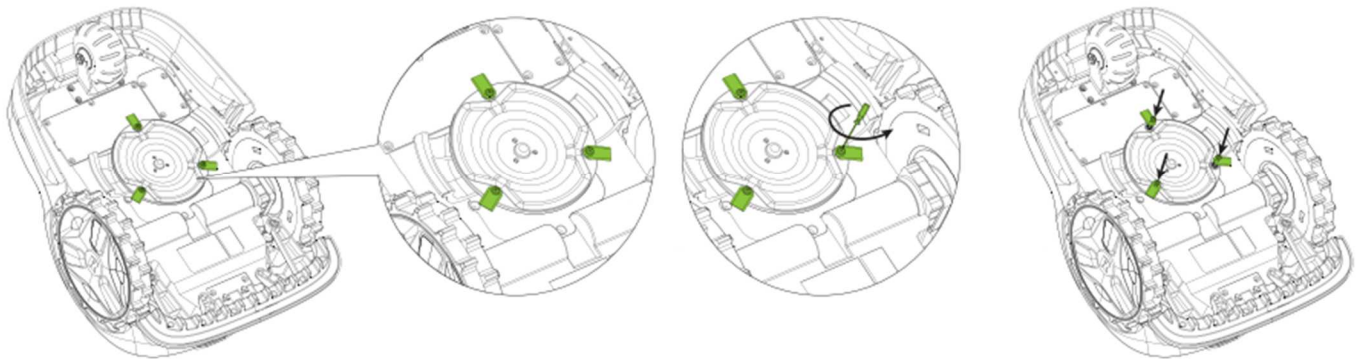
8.2 Replacing Blades

If the mower is used on a regular basis, it is recommended to replace the blades and screws every 1-2 months to ensure safety and better mowing results. Replace all three blades and their screws at the same time for a safe cutting system.

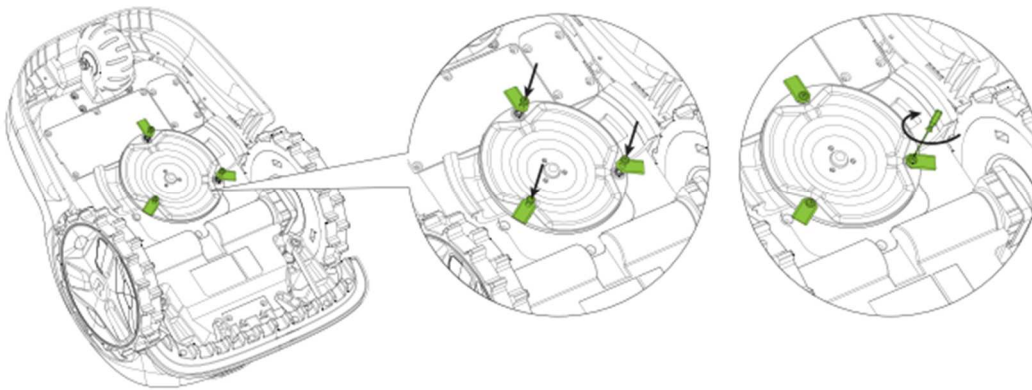
How to replace the blades:

1. Turn OFF the mower.
2. To avoid scratching, place the mower on a soft and clean surface in an upside-down position.
3. Use a cross-tip/Phillips head screwdriver to loosen the three screws.

4. Remove the screws and blades.



5. Fasten the new blades and screws (Torque: 1 Nm). Make sure the blades can pivot freely.



Warning:

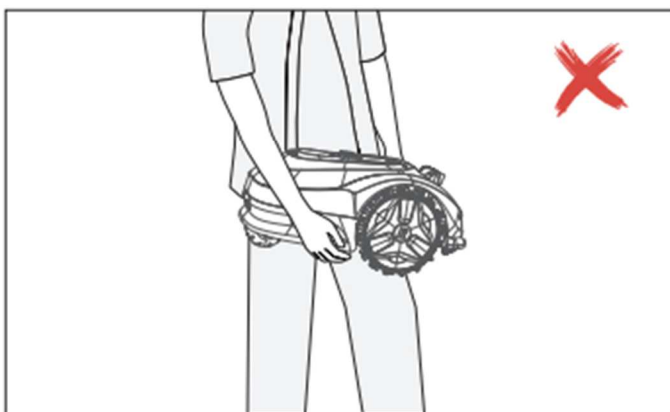
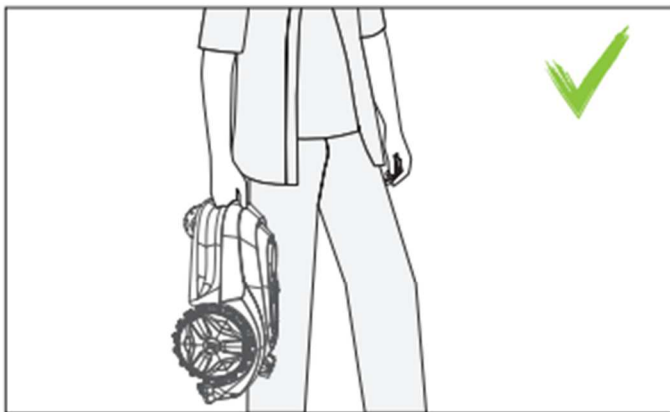
- Wear heavy gloves when you inspect or service the blades.
- Only use the right type of screws and original blades as provided by RoboUP®.
- DO NOT reuse the screws. Doing so can cause serious injury.

8.3 Transportation

To protect the mower, use the original carton packaging for long-distance transportation. Before lifting, moving, or transporting the product, turn it OFF. Handle with care and avoid violent force, such as throwing the mower or applying heavy pressure. Never pick up or carry the mower while the motor is running.

How to move or lift properly:

Carry the mower by the handle, with the blade disc facing away from your body.



⚠ Warning:

To avoid damage to the mower and/or the Charging Station. DO NOT lift the mower when it is parked in the Charging Station.

8.4 Battery

Fully charge the battery before storage to avoid over-discharge and damage to the electrical components. Charge the mower every 120 days for long-time storage. Battery damage caused by over-discharge will not be covered by the Limited Warranty. DO NOT store the battery under extreme temperature conditions, i.e., above +50°C (122°F) or below -20°C (-4°F).

⚠ Warning:

- The battery life depends on how often the product operates and the total working hours.
- When the operation time is shorter than usual per full charge or the lawn is not well-cut, consider replacing the battery. You can contact after-sales service to replace the battery.
- Comply with the local recycling requirements and applicable regulations.
- Only charge the product in the included Charging Station. Incorrect use may result in electric shock, overheating or leaking of corrosive liquid from the battery. In the event of leakage of electrolyte, flush with water/neutralizing agent. Get medical aid if corrosive liquid comes in your eyes.
- Use only original batteries. Product safety cannot be guaranteed with other than original batteries. Do not use non-rechargeable batteries.

8.5 Winter Storage

Fully charge the mower and turn it off to avoid over-discharge, which will cause permanent damage. Clean the mower thoroughly before storage. Check components subject to wear such as the blades. Repair or replace them when needed. Store the mower in a dry and frost free place, while standing on all wheels, preferably in the original packaging.

Unplug the power supply from the power socket and disconnect from the Charging Station. Protect the power supply from moisture and keep it in a well-ventilated place. Take the Charging Station indoors and keep it away from direct sunlight.

Keep the mower, Charging Station and power supply away from heat sources (such as stoves, radiators, etc.) or chemicals. Store them in a cool and dry place indoors. Exposure to sunlight and temperature extremes (both hot and cold) will accelerate the aging process of the components and may permanently damage the battery.

8.6 QR Code Replacement

When the QR code sticker on the Charging Station is damaged and the mower cannot find its way back, you can use the spare QR code sticker for replacement. Make sure the location for the new sticker strictly matches the original one.

9 Service Guide

9.1 Warranty Policy

[RoboUP] is committed to providing our esteemed users with exceptional products and services. Accordingly, we have formulated this Warranty Statement to clearly outline the scope of warranty coverage, service procedures, and related rights and obligations.

Note: This Warranty Statement applies only to end-users of [RoboUP] products and not to distributors, resellers, or other commercial use cases.

9.1.1 Warranty Proof Requirements

To facilitate a smooth warranty process, please retain your purchase receipt, invoice, original packaging, and other relevant documents related to your [RoboUP] product as proof of purchase for future service inquiries and warranty claims submissions. This will help us provide quick and efficient service during warranty claims.

Notes:

- Only purchase receipts issued by [RoboUP] or its authorized distributors are valid for warranty purposes.
- All return, exchange, and refund requests require the original product to be received and inspected at our local warehouse prior to processing.
- Products purchased through unofficial [RoboUP] channels or unauthorized distributors are not entitled to free warranty service.

Legal Disclaimer:

- This Warranty Statement constitutes our company's commitment regarding the quality of products sold and does not exclude or limit the rights of consumers as conferred by applicable laws and regulations.
- If any provision of this Statement conflicts with applicable laws and regulations, such laws and regulations shall prevail.
- To the extent permitted by law, [RoboUP] reserves the final right to interpret this Statement.

9.1.2 Covered Products & Warranty Period

1. Covered Products

- Product units sold directly by [RoboUP] or through its officially authorized distributors.
- Product units owned by the original purchaser (i.e., the initial owner).

Note: Product units purchased through unofficial channels or resold to third parties are not covered by the free warranty service set forth in this Statement.

2. Warranty Effective Date

- The warranty period for this product commences on the date the user actually takes delivery of the product.
- For pre-ordered products, the warranty period commences on the date the user actually takes delivery of the product.
- For product units replaced or repaired by [RoboUP], the warranty period shall be the remaining term of the original product unit's warranty and is not recalculated as a new full term.

3. Warranty Duration

Different components are covered by different warranty periods, as specified in the table below (calculated from the receipt date):

Product Main Unit	2 + 1 year warranty with online application
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Charging Station	2 years
Battery	2 years
Power Adapter	2 years
Blades	No warranty (consumable parts)
Wheels	No warranty (consumable parts)
Other Accessories	No warranty provided

9.1.3 Limited Warranty

1. Warranty Coverage Conditions

This Limited Warranty shall apply only if the following conditions are satisfied concurrently:

- The user submits a service request to [RoboUP] within the aforementioned specified warranty period. A valid original proof of purchase (e.g., invoice, receipt) is provided.
- The product unit qualifies as a Covered Product as defined in this Statement.
- The product has been used normally and in strict accordance with the instructions contained in the [RoboUP] User Manual.
- During the warranty period, the product has been used normally and bears no signs of man-made damage or external damage.
- No unauthorized disassembly, modification, or addition (beyond the recommendations set forth in official guidelines) has been conducted.
- All anti-tampering seals remain intact, properly in place, and unaltered.
- The product's serial number, labels, and other relevant information have not been erased or tampered with.
- The product has not sustained any accidental damage (e.g., collision, water ingress, fire).

Notes:

- All the aforementioned conditions must be satisfied concurrently; otherwise, the warranty request may be rejected.
- In the event of a conflict with applicable laws and regulations, such laws and regulations shall prevail; [RoboUP] reserves the final right to interpret this Statement.

2. Exclusions from Warranty

This Limited Warranty does not cover damage to your product or any of its components arising from the following causes:

- Products not authorized or designated by [RoboUP].
- Products beyond the warranty period.
- Purchase through unofficial channels; failure to provide a valid and legitimate proof of purchase (e.g., invoice or receipt) issued by [RoboUP]; or evidence of forgery/alteration of such proof.
- Misuse of the product or failure to comply with the User Manual instructions.
- Abuse or misuse of the product, reckless or negligent operation, or use for commercial purposes.
- Improper charging, storage, maintenance, or operation that fails to comply with instructions in user materials.
- Accidents (e.g., collisions, fire, water damage, chemical damage), operation outside the product's specified operating temperature range, exposure to high-pressure water jets, dropping of the product, and natural disasters (e.g., earthquake, flood).
- Damage incurred during transportation in any of the following circumstances: failure to refuse acceptance of the shipment upon delivery; failure to contact after-sales service within 24 hours of receiving the product; failure of the logistics company to issue a damage confirmation certificate; or inability to provide evidence of transportation-related damage.
- Damage arising from failure to use the original packaging for transportation or failure to follow the packing instructions provided by the customer service team.

- Damage arising from operating the product beyond the permitted or intended uses of the product as specified by [RoboUP].
- Modifications made to the product or its components without [RoboUP]'s written permission, where such modifications materially alter the product's functionality or performance.
- Tampering with or altering the product's labels, serial numbers, or other relevant information.
- Service, repair, or maintenance services provided by unauthorized service providers.
- Defects arising from normal wear and tear or aging.
- Damage arising from the use of expired wear parts.
- Damage arising from using the product in conjunction with third-party products, parts, or accessories.
- Use of the product in a manner that does not comply with the laws and regulations of the user's jurisdiction.

Notes:

- The occurrence of any of the aforementioned situations, whether individually or in combination, excludes the product from warranty coverage.
- In the event of a conflict with applicable laws and regulations, such laws and regulations shall prevail; [RoboUP] reserves the final right to interpret this Statement.

9.1.4 Warranty Services

- Official recommended firmware/software upgrade support.
- Remote debugging services.
- Repair services.
- Replacement services.
- Return services.

Note: [RoboUP] will provide the aforementioned warranty services based on the specific circumstances. For details, please contact the [RoboUP]'s official After-sales Team.

9.1.5 How to Obtain Warranty Service

1. Required Materials

- Valid Proof of Purchase.
- Product unit's MAC address (locatable on the product unit and within the App).
- Product unit's SN code (a 15-digit code starting with 'T', located on the black sticker at the bottom of the product unit).
- Videos or photos documenting the malfunction.

2. Contact Information

- Online customer service consultation via the main page of [RoboUP]'s official App.
- [RoboUP]'s Official After-sales Email: service@iroboup.com

9.1.6 Limitations of Liability

1. Product Shipping Liability

When the user obtains service, if [RoboUP] is responsible for transportation, [RoboUP] shall only be liable for the loss of or damage to the product while it is in [RoboUP]'s possession or during transit.

2. Geographical Warranty Limitations

- The Limited Warranty set forth in this Statement applies only to services and authorized service locations in the country/jurisdiction of purchase.
- Products purchased through unofficial channels or from overseas jurisdictions are not covered by this Limited Warranty; [RoboUP] shall not assume responsibility for international warranty coverage.
- Warranty, repair, or replacement requests for products used outside the authorized jurisdictions or overseas shall not be accepted.
- For products transported across borders or resold, the inheritance and provision of warranty benefits are limited to the official policies and services of the original country/jurisdiction of purchase.

Note: This clause shall not affect the user's statutory rights as conferred by the laws of the country/jurisdiction of purchase.

3. Disclaimer and Limitation of Liability

To the fullest extent permitted by law, even if any remedy fails to achieve its essential purpose, in no event shall [RoboUP], its affiliates, suppliers, distributors, or service providers be liable for the following, even if informed of the possibility thereof:

- Third-party claims for damages brought against you.
- Loss, damage, or disclosure of data stored on your product unit.
- Special, incidental, punitive, indirect, or consequential damages, including but not limited to loss of profits, business revenue, goodwill, or anticipated savings.

Note: In no event shall the total liability of [RoboUP] and its affiliates for any claim exceed the amount of actual direct damages, with such liability capped at the purchase price paid for the product.

4. Legal Exceptions

The aforementioned limitations shall not apply to [RoboUP]'s liability for bodily injury (including death), damage to real property, or damage to tangible personal property for which [RoboUP] is legally liable.

5. Jurisdictional Exceptions

Since some countries, states, or jurisdictions do not permit the exclusion or limitation of incidental or consequential damages, the aforementioned limitations or exclusions may not apply to users in such jurisdictions.

9.1.7 Important Information

- [RoboUP] shall provide free warranty services to customers whose products are within the warranty period.
- [RoboUP] recommends that customers retain the original packaging after receiving the product unit, for storage during the off-mowing season or for potential after-sales warranty services.
- Please contact the [RoboUP] After-sales Team to submit a service request before returning any product. [RoboUP] may refuse to accept or return any product that does not have an assigned RMA number.
- For product issues that fall outside the scope of warranty coverage, [RoboUP] may charge applicable fees.
- Please note that product repair may lead to data loss.
- If the delivery address you provide is incorrect, or the recipient refuses to accept delivery, any losses arising therefrom shall be borne by the recipient.
- [RoboUP] does not provide international warranty services and shall provide warranty services based on the order's shipping address.
- If you need to ship the product across countries/jurisdictions, you must obtain [RoboUP]'s prior written consent and shall be responsible for paying all resulting tariffs and customs clearance fees.
- When you receive the product, please inspect it to confirm its integrity. Ensure the product has not been damaged during transportation or due to other causes. Damage during transportation must be reported to the [RoboUP] After-sales Service Center within 24 hours along with relevant evidence. For other issues

concerning the product you are returning, please notify [RoboUP] within 48 hours of receipt. Beyond this period, [RoboUP] shall presume the product is undamaged and functioning properly.

- [RoboUP] reserves the final right to interpret the terms of warranty services.
- Warranty information is subject to update; please refer to the warranty policy available on [RoboUP]'s official website.

9.1.8 Additional Legal Rights for Consumers

For consumers, to whom the consumer protection laws or regulations of their country of purchase (or, if different, their country of residence) apply, the benefits conferred by RoboUP's Limited Warranty are in addition to all rights and remedies granted by such consumer protection laws and regulations, including but not limited to the additional rights set forth herein.

9.2 Error Messages

Below is a list of error messages, what they mean and how to fix the issue. If the issue cannot be fixed by reboot, please contact service@iroboup.com for further support.

Error Message	Cause	Action
• Mower is tilted. • Mower is lifted. • Mower is upside down.	The mower is not positioned properly.	Please place the mower on a flat surface.
Mower is trapped.	The mower is stuck and unable to continue its work.	• If the mower is surrounded by obstacles, or the passage is blocked, please clear the obstacles. • If the mower is stuck in a pit or the wheels are slipping, and it cannot free itself after repeated attempts, please adjust the pit and move the mower to a new location to restart.
	The camera may be dirty or there may be rain on it.	Please clean the camera.
• Left wheel motor overload. • Left wheel motor blocked. • Right wheel motor overload. • Right wheel motor blocked.	Motor abnormality due to overcurrent, possibly caused by entanglement or grass being too tall and dense.	• If the motor is entangled with grass or other debris, please inspect the faulty motor, clear the grass or debris, and restart the mower. • If the mower cannot move due to grass being too tall or dense, please first cut the grass below 12cm.
• Cutting motor overload. • Cutting motor blocked.	Motor abnormality due to overcurrent, possibly caused by entanglement or grass being too tall and dense.	• If the motor is entangled with grass or other debris, please inspect the faulty motor, clear the grass or debris, and restart the mower. • If the blade disc cannot rotate due to overly tall or dense grass, please first cut the grass below 12cm and make sure the length of each cutting is less than 4cm.

• Left wheel voltage too low. • Left wheel voltage too high. • Left wheel motor hall sensor fault. • Left wheel motor disconnected. • Right wheel voltage too high. • Right wheel voltage too low. • Right wheel motor hall sensor fault. • Right wheel motor disconnected. • Cutting motor voltage too high. • Cutting motor voltage too low. • Cutting motor hall sensor fault. • Cutting motor disconnected. • Motor malfunction.	• Motor abnormality due to over voltage, under voltage, or hall sensor failure. • Motor disconnected.	Please check and restart the mower. If the issue persists, contact after-sales service.
Battery low temperature.	Ambient temperature is too low.	Please check if the ambient temperature meets the operating requirements, i.e., the operating temperature must be above 3℃ and the charging temperature must be above 4℃.
Battery high temperature.	Ambient temperature is too high.	• Please check if the ambient temperature meets the operating requirements, i.e., both working and charging temperatures must be below 50℃. • Let the battery cool down before restarting the mower.
• Battery discharge overcurrent. • Battery voltage is low. • Battery defective.	Battery abnormality due to irregular voltage or current or damage.	Please check and restart the mower. If the issue persists, contact after-sales service for a battery replacement.
• IMU malfunction. • Navi module disconnected. • AI module disconnected. • Odometer sensor data abnormal. • Electronic malfunction.	• IMU data is abnormal, and multiple automatic restarts of the IMU sensor have failed to resolve the issue. • Unable to obtain navigation, AI, or odometry data. • Failed to disconnect the charging circuit when leaving the Charging Station.	Please check and restart the mower. If the issue persists, contact after-sales service.
Outside working area.	The mower is out of boundary.	Please move the mower back within the created boundaries.
Charging Station blocked.	The mower cannot return to the Charging Station because there is an obstacle on it or the Charging Station is not powered on.	• Please remove the obstacle from the Charging Station and ensure the mower can return smoothly. • Please check if the Charging Station is powered on, and place the mower back on the Charging Station to charge.
	There is debris in the charging port of the mower.	Please clean the charging port of the mower and make sure there is no grass clippings and water.

Cannot find Charging Station.	The mower cannot find the Charging Station due to it being moved, powered off, or the QR code being dirty.	• Please check if the Charging Station has been moved or is powered on, and place the mower back on the Charging Station to charge. • Please check if the QR code is dirty, then clean it or replace the QR code.
Upgrade error.	Unable to revert to the previous version after a failed upgrade.	Please check and restart the mower. If the issue persists, contact after-sales service.
The map data is damaged.	Damaged map data was detected during startup and has been automatically deleted.	Please recreate the map.
Positioning failed.	The mower lost positioning due to map or environmental similarities.	Please place the mower back on the Charging Station for re-positioning.
Create map fail.	• Unable to locate the Charging Station, preventing the completion of the path. • During multi-zone mapping, beacons cannot be found, making it impossible to cross zones.	• Please install the Charging Station and beacons according to the requirements in Chapter 4, and ensure that the Charging Station and beacons are not moved during mapping. • If auto mapping fails multiple times, please try manual mapping.
	• The map is too small. • Due to complex terrain, the mower frequently collides or moves up and down slopes during mapping, causing excessive cumulative positioning errors. • The mower did not detect clear boundaries.	Please prepare the lawn according to the requirements in Chapter 4, ensuring there are clear and recognizable boundaries, clearing obstacles near the Charging Station, and leveling any depressions in the lawn.

9.3 Troubleshooting

The following chart offers a guide to help identify an issue, and if possible, repair by yourself. If the issue cannot be solved, please visit the official website www.iroboup.com for more FAQs or contact service@iroboup.com for further support.

Issue	Possible Cause	Action
Unable to bind the mower with App.	Weak Wi-Fi Signal.	Please move the mower and the mobile phone closer to the router to get a strong and stable Wi-Fi signal, then try again.
	Your Wi-Fi router is dual-band (5GHz and 2.4GHz) and only 5GHz is enabled.	Please check the router manual and enable 2.4GHz frequency.
The mower cannot be powered on.	The battery is out of power.	Please put the mower in the Charging Station with the power supply connected, wait for the mower to charge, then try to turn it on.
	The ambient temperature is too high or too low, and the battery cannot work.	Please move the mower to a place with a suitable temperature of 5°C-35°C to cool down or warm up until it automatically exits the protection mode and try again.
The mower is not responding to App commands.	Weak Bluetooth signal or weak Wi-Fi signal.	• Weak Bluetooth signal, please keep the distance between your smart phone App and the mower to be 2-3 meters. • Weak Wi-Fi signal, please make sure your mower is connected to Wi-Fi.

The map or mower location on the App is not updating in real-time.	It is affected by Bluetooth transmission delay or network update delay.	Please ensure Bluetooth or Wi-Fi signals are normal, then wait patiently for it to update, or exit the page and refresh.
	The mower disconnects from the router's network.	Before refreshing the map in the App, please ensure that the mower is connected to the router's network well.
	Cloud storage limit reached when connected only via Wi-Fi.	• Please use Bluetooth to connect the App and the mower for timely data updates. • If connected only via Wi-Fi, please wait until the following day for it to refresh automatically.
The mower cannot charge after returning to the Charging Station.	The Charging Station has no power.	Please check if all cables are properly connected or test all interfaces. If a faulty component is identified, please contact after-sales service.
	The charging pins of the Charging Station and the mower are dirty.	Please check the four charging pins on the mower and the Charging Station. If they are dirty, please wipe them with clean tissue, towel or cloth.
	The ambient temperature is too high and the battery cannot work.	Please move the mower to a place with a suitable temperature to cool down until it automatically exits the high-temperature protection mode. After the temperature is restored, you can try again.
	The charging current is overloaded.	Please make sure the original charging adapter is used for charging the mower. If the issue persists, contact after-sales service.
Although the mower is low power it does not return to Charging Station automatically.	The mower has a positioning deviation.	The mower will attempt to recover its position by moving along the edge. If the mower cannot recover its position for an extended period, please move it back to the Charging Station.
	The mower cannot return to the Charging Station because there is an obstacle on it.	Please remove the obstacle from the Charging Station and ensure the mower can return smoothly.
	The light is dim when the mower returns to the Charging Station.	Please adjust the no-mowing time to ensure the mower returns to the Charging Station before nightfall.
	The mower has encountered a fault or is in an emergency stop state.	Please release the fault or emergency stop state of the mower, then let it return to charging.
	It may be that the mower cannot recognize the grass and obstacles properly due to rain, or the rain has blocked the camera.	Please take the mower to the Charging Station and check and clean the camera.
Mower's mowing path is not straight enough.	The lawn is uneven.	If mowing efficiency is affected, please level the depressions or handle the raised terrain.
The mower does not properly avoid living objects.	The front lens of the camera is blocked, or lens cover is dirty.	Please check whether there are obstacles or dirt in the front of the camera. If yes, please remove objects and wipe the lens cover with a clean tissue or cloth.
	The living object is too short, too small, or within the camera's blind spot.	Please ensure there are no small living objects on the lawn while the mower is operating.
The mower is not executing scheduled tasks.	The mower has encountered a fault or is in an emergency stop state.	Please release the fault or emergency stop state of the mower.
	The mower is powered off.	Please long press the power button to turn on the mower.

	The mower is in a low battery state.	If the mower has insufficient battery when responding to a schedule, it will automatically return to charge.
	The mower's rain sensor is enabled and has detected rain; or the scheduled time is set as a no-mowing period.	• If it is due to rain, please wait for the rain to stop and the delay time to pass, or disable the rain sensor. • If it is due to the no-mow setting, please wait for the no-mowing period to end.
	The mower is performing other tasks during scheduled period.	Please end the current task, or wait for the current task to finish. If the scheduled end time has not been reached, the mower will execute the schedule.
The mower moves out of boundaries.	The mower has gone out of boundary due to wheel slippage.	• Please check if the out-of-boundary area has a slope. If the edge terrain slope exceeds 12°/21%, please use a fence or a flat area of at least 30 cm without grass at the downhill. • Please check if the wheels are clogged with dirt or grass clippings, causing insufficient traction and slippage.
	The mower has gone out of boundary due to obstacle avoidance or escaping a stuck situation.	Please check if there are multiple obstacles, and clear the obstacles.
	The map boundary is a cliff or step, making it easy for the mower to go out of boundary and unable to return when turning at the edge.	If the boundary is a ditch or cliff more than 3 cm deep, put up a fence or protective wall to prevent the mower from getting stuck or falling over. You can also cut the long grass covered on the edge to create a visible and horizontal boundary with least width of 30 cm so that the mower can recognize it and won't pass by.
	The mower may fail to detect the boundary if the boundary of lawn is bare ground or leaf piles.	If the boundary is bare ground or leaf piles, please install a physical fence or barrier to create a clear border.
The mowing result is uneven.	Blades are not sharp enough.	Please power off the mower and check blades for chipping or dulling. If so, replace the entire blade set, including the screws.
	Some areas have grass that is too tall or too dense.	• If the grass is long, please adjust the mower's cutting height from high to low or mow twice for better results. • If the grass is dense, please mow the area multiple times.
	The blade disc is stuck.	Please check if the cutting disc is clogged with grass clippings or other debris, causing some blades to fail to cut.
The mower is lingering in some areas.	There are many obstacles or living objects nearby, or dirt remains inside the front lens cover of the camera, causing the mower to constantly avoid obstacles.	Please remove the obstacles or clean the camera to prevent the mower from staying in obstacle avoidance mode.
	There's a narrow path around here, and the mower has been trying to get through.	• If the width of the narrow road is greater than 1m, please wait until the mower can eventually pass. • If the width of the narrow path is less than 1m, the mower will abandon this narrow area.
The mower is trapped.	Wheels, blade disc or other chassis parts are blocked by foreign objects.	After mower is powered off, check blade disc. Remove objects and clean blade disc if necessary.

	The mower is stuck in the pit and cannot get out.	Please help the mower get out of trouble or directly fill the pothole area if necessary.
	The mower gets into a narrow lane or blind alley/dead end and cannot get out.	Please help the mower get out of trouble and put up a fence or protective wall in front of a dead end.
	The mower is surrounded by obstacles, or the passage is blocked.	Please clear obstacles to ensure that the mower can pass.
The mower cannot cross zones.	The beacon has not been removed.	Please remove the beacon after the map creation is completed.

10 Trademark and Legal Statement

RoboUP® and the logo design are registered trademarks of RoboUP® Co., Ltd.. Android and Google Play are trademarks of Google Inc.. App Store is a service mark of Apple Inc.. The respective owners reserve the rights of their trademarks referred to in this manual.

11 Environmental Protection

	This marking indicates that this product should not be disposed with other household wastes throughout the EU. To prevent possible harm to the environment or human health from uncontrolled waste disposal, recycle it responsibly to promote the sustainable reuse of material resources. To return your used device, please use the return and collection systems or contact the retailer where the product was purchased. They can take this product for environmental safe recycling.
	Separate collection of used machine and packaging let you recycle materials and use them again. Use of the recycled materials helps prevent environmental pollution and decreases the requirements for raw materials.
	At the end of their useful life, discard batteries with a precaution for our environment. The battery contains material that is dangerous to you and the environment. You must remove and discard these materials separately at an equipment that accepts lithium-ion batteries.
	Warning: This product can expose you to chemicals including Lead (Pb), which is known to the State of California to cause cancer. For more information go to www.p65Warning.ca.gov

12 Certifications

RED

2.4GHz	Frequency	2412MHz-2472MHz
	Max. Power	20dBm

Bluetooth module	Frequency	2402-2480 MHz
	Max. Power	9dBm

This equipment should be installed and operated with a minimum distance of 20cm between the radiator and a human body.

IC

This device may not cause interference; (2) This device must accept any interference including interference that may cause undesired operation of the device.

Cet appareil ne doit pas causer d'interférences ; (2) Cet appareil doit accepter toute interférence y compris celles qui peuvent provoquer un fonctionnement indésirable de l'appareil.

This device complies with Industry Canada's RSS for license-exempt radio equipment. Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) the user must accept any interference received, including interference that may cause undesired operation.

This equipment complies with Industry Canada radiation exposure limits established for an uncontrolled environment.
This equipment should be installed and operated with a minimum distance of 20cm between the radiator and a human body.

Cet appareil est conforme aux exigences du RSS d'Industrie Canada concernant les équipements radio exemptés de licence. Son fonctionnement est soumis aux deux conditions suivantes : (1) il ne doit pas provoquer d'interférences, et (2) l'utilisateur doit accepter toute interférence reçue, y compris celles susceptibles de provoquer un fonctionnement indésirable. Cet équipement respecte les limites d'exposition aux rayonnements fixées par Industrie Canada pour un environnement non contrôlé.

Ces appareils sont approuvés pour une installation sur des plateformes hôtes mobiles et/ou portables à au moins 20 cm du corps humain.

Caution: Any changes or modifications to this device not expressly approved by Shenzhen Topband Co.,Ltd. for compliance could void the user's authority to operate the equipment.

Attention : toute modification ou changement apporté à cet appareil non expressément approuvé par Shenzhen Topband Co.,Ltd.

Innovation Science and Economic Development Canada ICES-003 Compliance Label:

CANICES-3(B)/NMB-3(B)

FCC

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.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy, and if not installed and used in accordance with the instructions, it may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

This equipment should be installed and operated with a minimum distance of 20cm between the radiator and a human body.

Caution:

Any changes or modifications to this device not expressly approved by Shenzhen Topband Co.,Ltd. for compliance could void the user's authority to operate the equipment.



This product conforms to the applicable EC Directives.

RoboUP



Scan QR code to discover
more about RoboUP®