iSweeper W1

ПРОФЕССИОНАЛЬНЫЙ РОБОТ-ПЫЛЕСОС ДЛЯ УЛИЦЫ

РУКОВОДСТВО ПО ЭКСПЛУАТАЦИИ

Перед началом работы внимательно ознакомьтесь с руководством и сохраняйте его.

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Troubleshooting

Routine Maintenance

Introduction

Thank you for choosing the iTR Robotics iSweeper W1 commercial outdoor sweeper. We hope that in the days ahead, W1 will bring a cleaner, smarter, and more convenient working environment to you, your site, and your company.

This user manual will help you use our product more effectively and provides as comprehensive usage information as possible. We hope it will help you get the best product experience.

If you have any questions during use, please contact us as soon as possible. We will be happy to assist you.

Product Overview

W1 is a sweeping device designed for outdoor commercial scenarios. It delivers strong cleaning performance and integrates multiple routine cleaning and maintenance functions, including sweeping, dust suppression, and dust collection. It is widely suitable for industrial parks, factories, airports, parks and scenic areas, commercial plazas, campuses, parking lots, and other sites. The device is equipped with a 240 Ah high-capacity battery, ensuring a theoretical single-run working area of up to 40,000 square meters when no automatic replenishment is available. In addition, the built-in spray system greatly reduces airborne dust during sweeping, creating a clean, low-dust environment for staff and pedestrians.

Product Specifications

Dimensions and Weight	
Item	**Specification**
Length	1860 mm
Width	1255 mm
Height	1420 mm
Net Weight	735 kg
Cleaning Width	1350 mm

Motion Parameters	
Item	**Specification**
Max Speed	1 m/s
Minimum Operating Width	2 m
Standard Operating Width	>= 5 m
Climbing Angle	12 deg

Motion Parameters	
Item	**Specification**
Edge-following Distance	10-30 cm

Cleaning Capacity	
Item	**Specification**
Max Efficiency	5600 m2/h
Dustbin Capacity	100 L
Clean-water Tank Capacity	100 L

Electrical Parameters	
Item	**Specification**
Battery Type	Lithium iron phosphate
Battery Capacity	230 Ah
Rated Voltage	48 VDC
Charging Method	Manual wired charging / automatic wireless charging

Electrical Parameters	
Item	**Specification**
Charging Time	5-7 h
Runtime	5-7 h

Operating Environment	
Item	**Specification**
Ambient Humidity	<= 70%
Operating Temperature	0 C to 40 C
Storage Temperature	-20 C to 50 C

Sensor Configuration	
Item	**Specification**
Sensors	Single-line lidar; multi-line lidar; depth vision; electronic anti-collision bumper; GPS

* Due to continuous product improvement, the actual product shall prevail. The company reserves the right to update the product.

Safety Instructions

Before using this product, read this manual carefully and follow the instructions below.

Caution

Before Use

1. Operators must read this manual carefully and operate the device according to the instructions.
2. Make sure the power supply voltage matches the charger voltage.
3. Before powering on, check whether the emergency stop button is pressed. If it is pressed, the device cannot automatically execute tasks after startup.
4. Before powering on, check whether the manual button is pressed. If it is pressed, the device cannot automatically execute tasks after startup.
5. Before powering on, check that all parts are intact and that consumables are in normal usable condition.
6. Before starting a task, make sure the device is near the start point and that the front of the device is aligned with the required direction. Otherwise, localization may be lost.
7. Before use, make sure the maintenance door and dustbin are locked.
8. If the device will be used near stairs or suspended edges, draw a virtual wall near the edge first and test whether the product can detect the edge without falling. Install protective barriers at suspended edges.

During Use

1. Keep feet away from the device while it is moving.
2. When the device is executing a task, place necessary warning signs near the working area.
3. Do not block the lidar or cameras while the device is operating.
4. In an emergency, immediately press the red emergency stop button on the device panel.
5. If the device fails, request service promptly.

Safety Instructions

During Charging

1. Use only the original charger and battery supplied by the manufacturer. If battery damage is suspected, contact the manufacturer, an authorized dealer, or after-sales service personnel.
2. Make sure the charging plug is firmly connected during charging. Poor contact may cause overheating and create danger.
3. Do not cover the charger. Keep it away from humid, flammable, or explosive environments.

Maintenance and Care Safety

1. Store the device in a dry and cool place.
2. Turn off the device power switch before maintenance or care.
3. Do not modify the device or change its original design or configuration without authorization. For repairs, contact professional service personnel designated by the manufacturer.
4. Use only accessories sold or recommended by our company.
5. If the device will not be used for a long time, clean the dustbin, power off the device, and charge it once every quarter to prevent battery over-discharge.
6. Turn off the device power switch before moving the device.
7. If the charging cable is damaged, contact the manufacturer, an authorized dealer, or after-sales service personnel for replacement.
8. Do not charge using a damaged charging cable or power outlet.
9. Do not use the device when it is not working properly. Have it repaired by authorized service personnel.
10. Before disposing of the product, contact authorized service personnel for proper handling.

Safety Instructions

Warning

Untrained personnel are prohibited from using the device.

Non-professionals are prohibited from disassembling or assembling the device without authorization. Damage caused by unauthorized disassembly or assembly is the user's responsibility.

Do not use the device in areas with open flames or fragile objects; environments above 50 C or below 0 C; or areas with standing water, rain, snow, hail, or similar conditions.

Battery Disposal

1. If the battery needs to be replaced or discarded, have it handled by after-sales service personnel.
2. Chemicals in the built-in battery may pollute the environment. Remove the internal battery before disposing of the device.

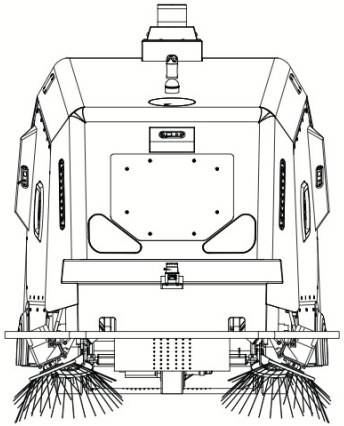
Battery Leakage Hazard

1. If the battery leaks, avoid contact with eyes or skin.
2. If contact occurs, immediately wash hands with clean water and rinse eyes. If discomfort remains, seek medical attention immediately.

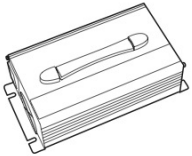
Wireless Charging Safety Warning

1. Never place any metal object within 10 cm around the x-axis, y-axis, or z-axis of the TXP and RCU. Metal objects in this range may cause fire or electric shock.
2. Do not directly touch the RCU and TPU surfaces during wireless charging or immediately after wireless charging stops.
3. Anyone wearing an implanted medical device, such as a pacemaker, must keep at least 5 m away from the wireless charger.

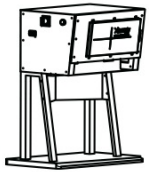
Packing List



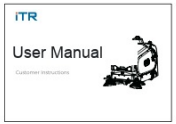
Main Unit x 1



Charger x 1()



Charging Stationx1()



User Manualx1

Product Certificate x 1

Controller x 1

Packing List x 1

Factory Inspection Report x 1

Acceptance and Training x 1

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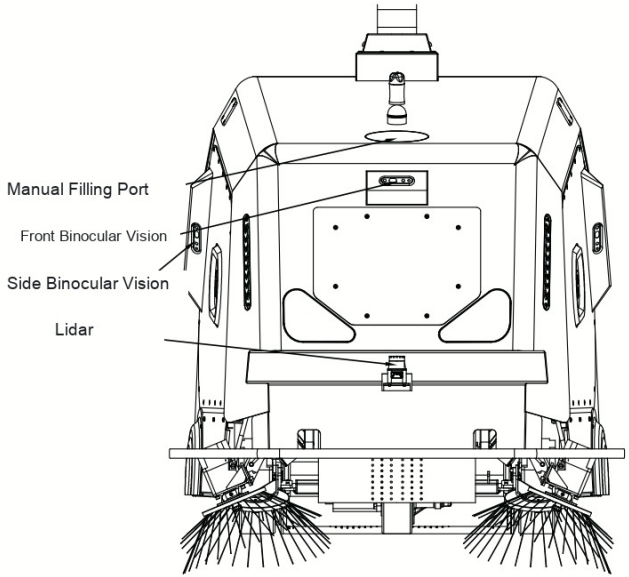
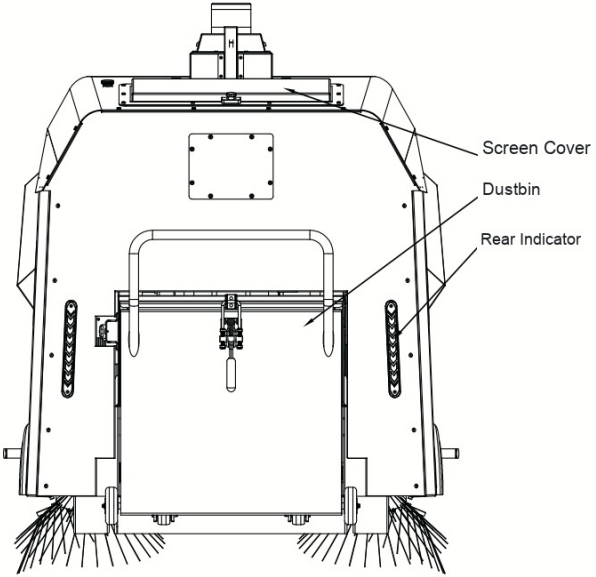
Hardware Overview

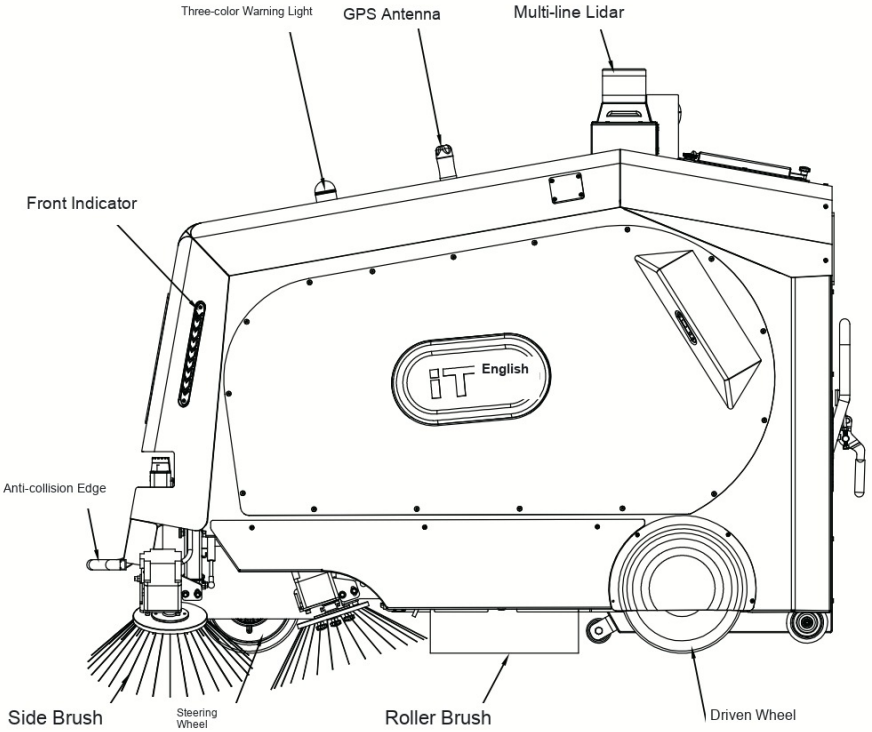
Front



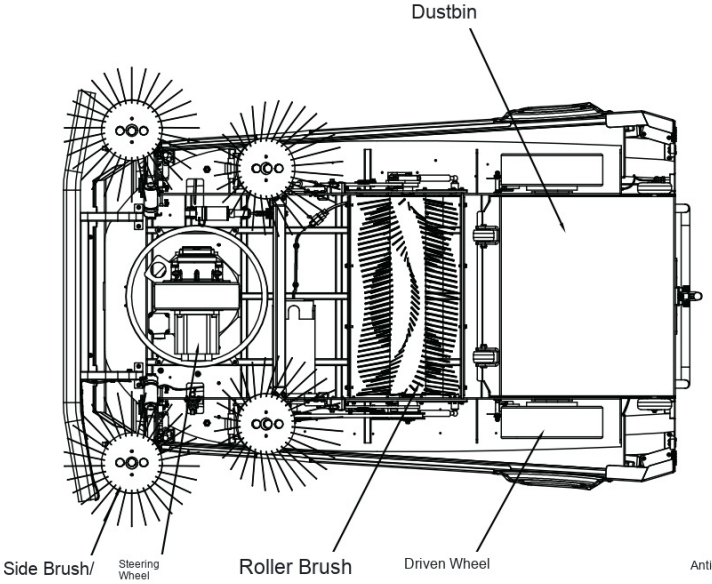
Rear



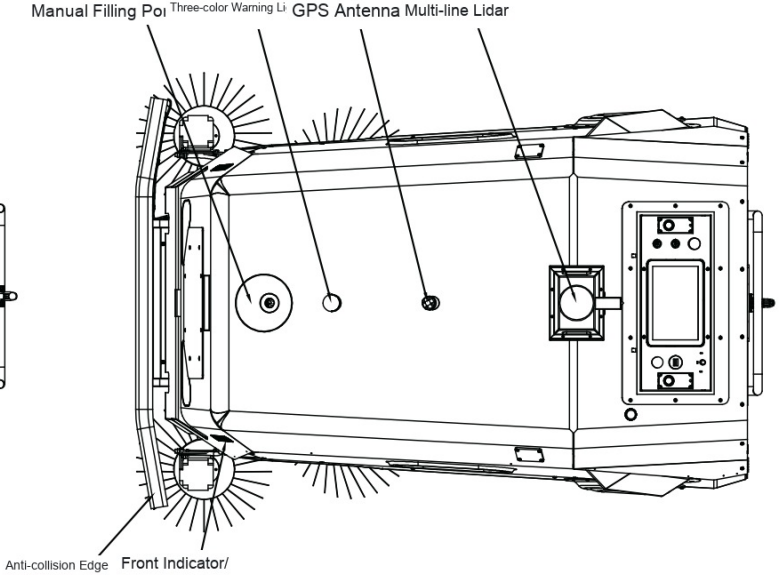
Side


Three-color Warning Light
GPS Antenna
Multi-line Lidar
Front Indicator
English
Anti-collision Edge
Side Brush
Steering Wheel
Roller Brush
Driven Wheel

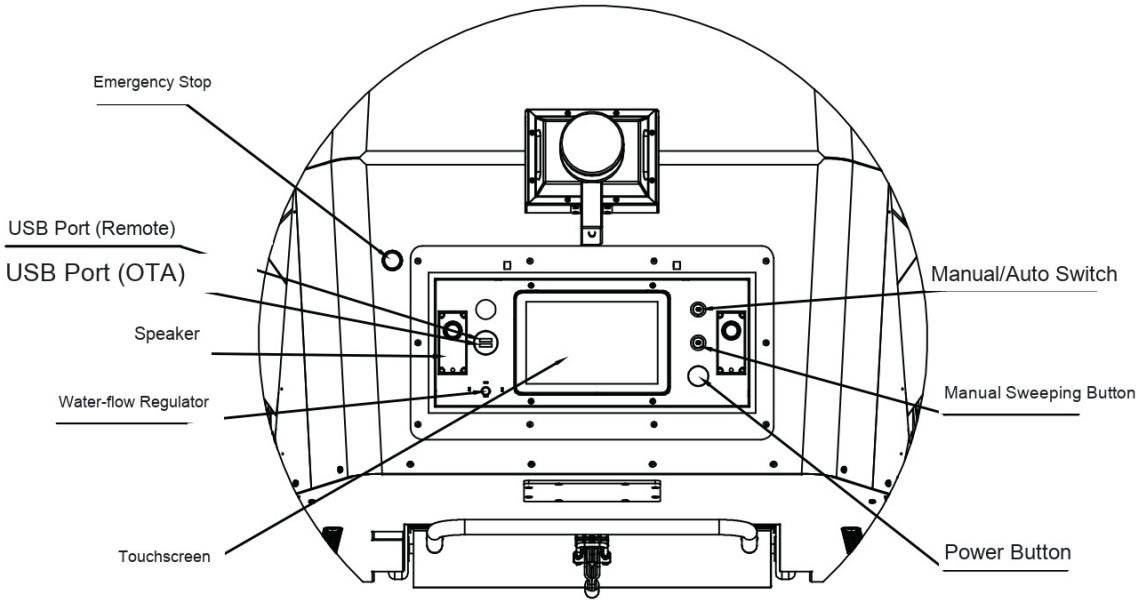
Bottom


Dustbin
Side Brush/
Steering Wheel
Roller Brush
Driven Wheel

Top

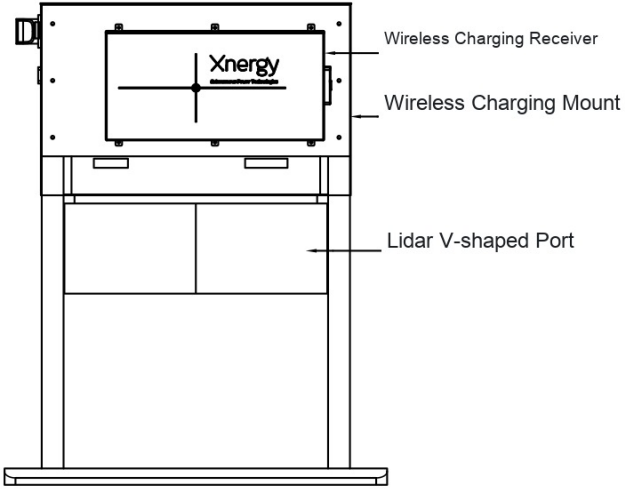

Manual Filling Poı
Three-color Warning Li
GPS Antenna
Multi-line Lidar
Anti-collision Edge
Front Indicator/

Control Interface

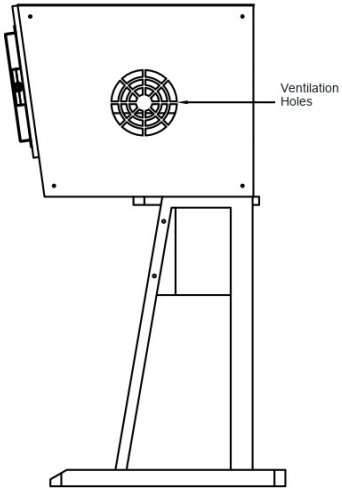


Charging Station (Optional)

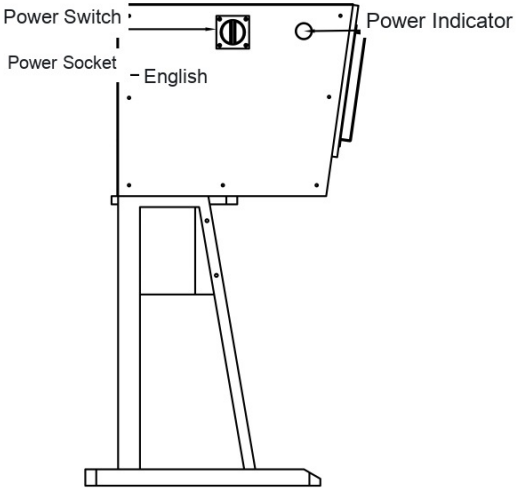
Charging Station Front



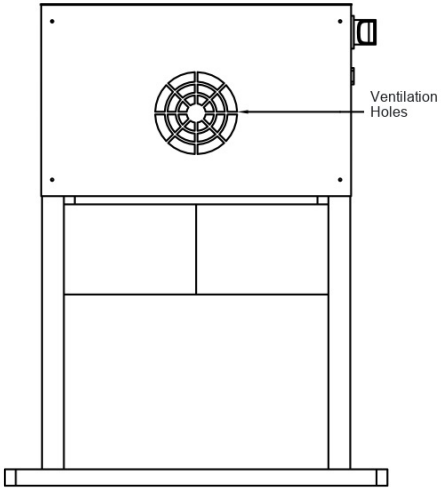
Charging Station Left



Charging Station Right



Charging Station Rear



Device Deployment

Precautions

The device has multiple safety protections. To ensure operator and bystander safety, all operators must receive professional training from our company or authorized agents.

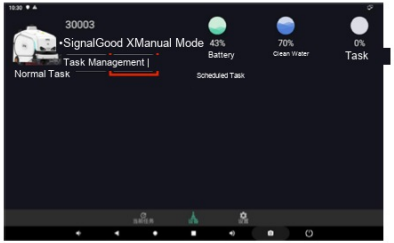
Only trained personnel may operate the device.

Power On

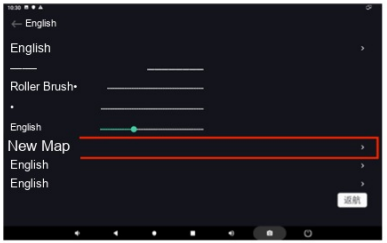
Open the panel cover and rotate the key switch clockwise. Startup is complete when the display lights up.

Create Map

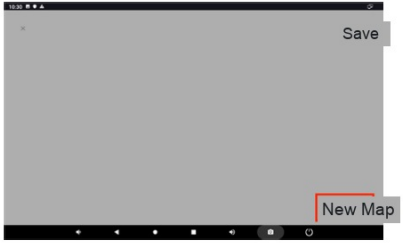
1 Tap General Settings on the screen.



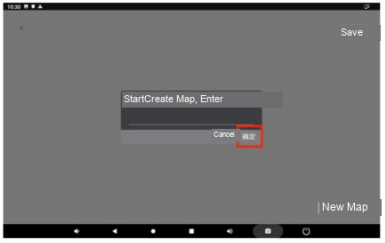
2. Tap New Map.



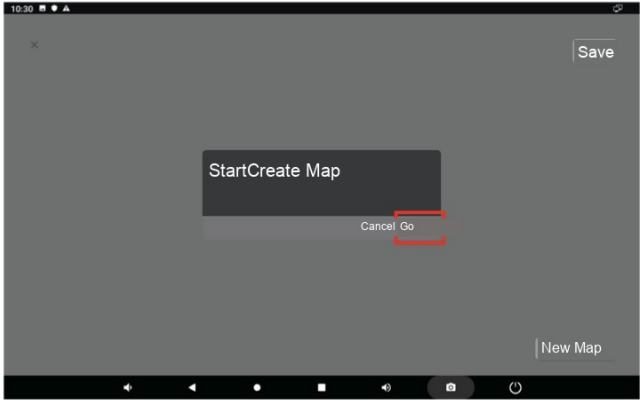
3. Tap New Map.



4. Enter the map name and tap Confirm.

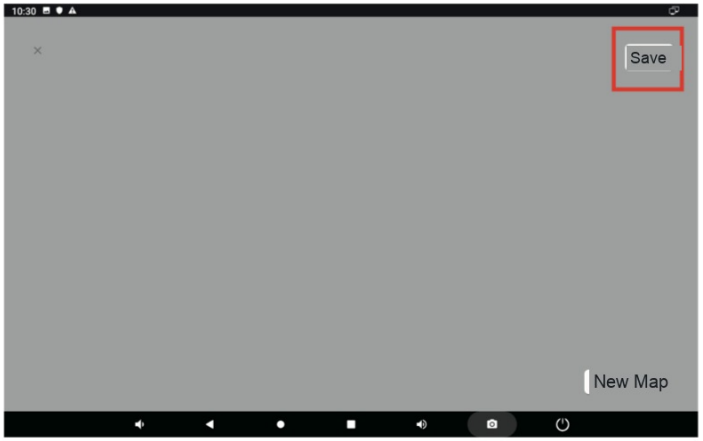


5. Click Go



6. Use the controller to drive the device for mapping until the complete map appears on the screen.

7. Click Save, Mapping



Note: During mapping, try to make the device path form a closed loop.

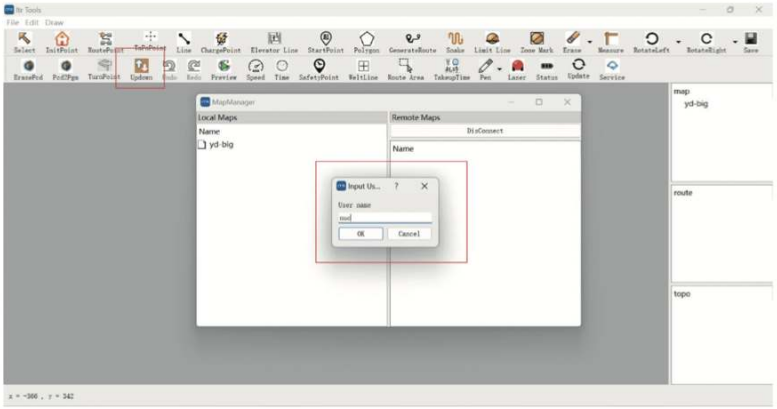
Create Route

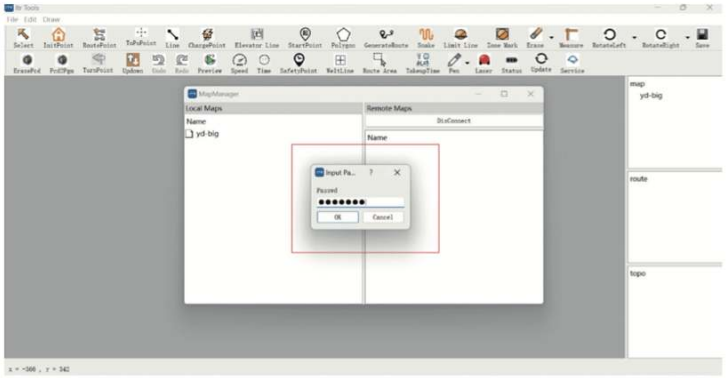
Preparation

Before creating a route, make sure the map drawing software is installed and the computer is connected to the machine network.

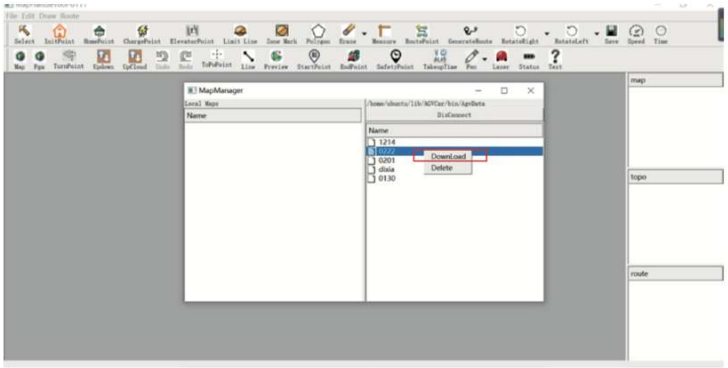
Create Route File

1. Open the map drawing software (MapHandleTool.exe) and click Updown.
2. Click Connect, enter account nuc in the dialog box, and click OK.
3. In the next dialog box, enter password itr@123 and click OK.





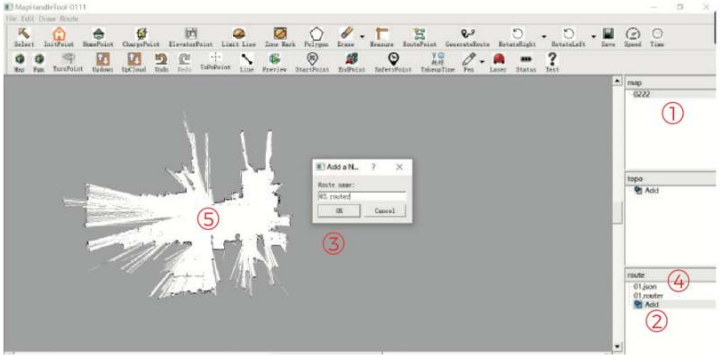
4 Right-click the corresponding map name and choose DownLoad. The map file is downloaded to the map drawing software.



Draw Route

1. In the map column on the right, click the target map file, using 0222 as the example.
2. Under Route, click Add. The Add a Name dialog box appears.
3. Enter the route name, then click OK to save it. In the figure, the route is named 02.

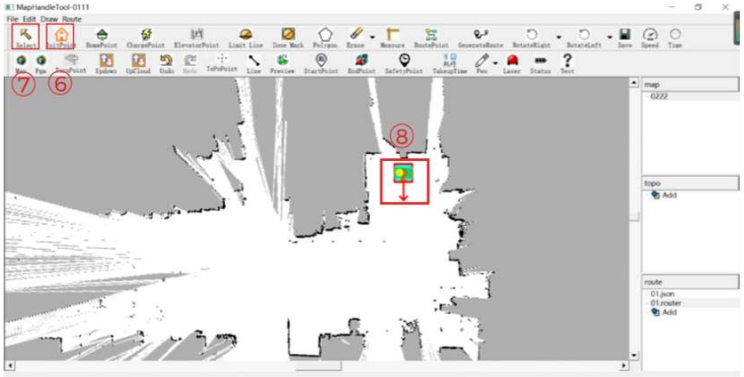
   Route name format: XXX.router
4. In Route, click the route file ending in .router, such as 02.router.
5. Scroll up with the mouse wheel to zoom the map to a suitable size.



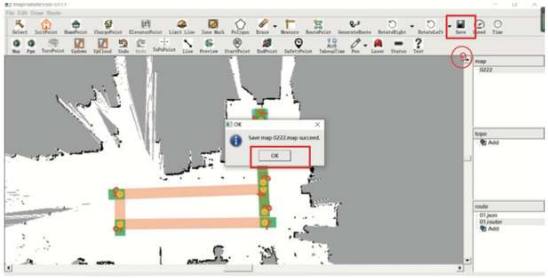
6 Select InitPoint and click on the map. A blue start point is generated.

7 Select Select, click InitPoint, and fine-tune the arrow direction. The arrow indicates the driving direction, or the front of the machine.

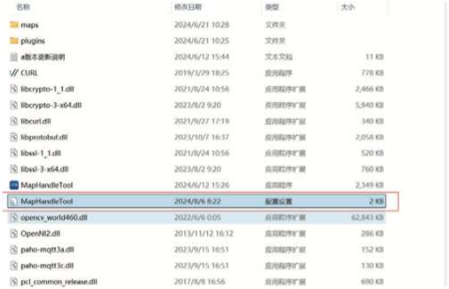
8 Select RoutePoint. The first RoutePoint should overlap InitPoint. Click the map according to site conditions to create the route. The map distance is approximately 1:1 with the actual distance, with about 5 cm error; use this distance to place points.



9 After drawing the route, click Save. If Save map 0222.map succeed appears, saving is successful. Click OK three times. Different function points may show different colors after saving.



Open the MapHandleTool file in the engineering software directory.

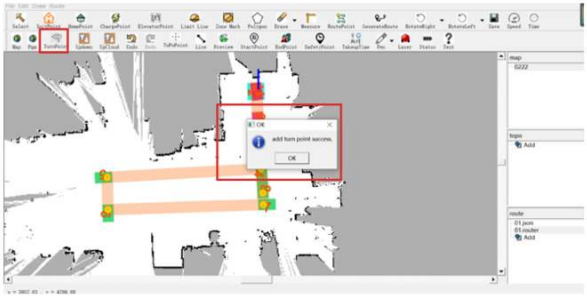


Change "roate_flag = false" to "roate_flag = true" as shown, then save. The change takes effect after saving.

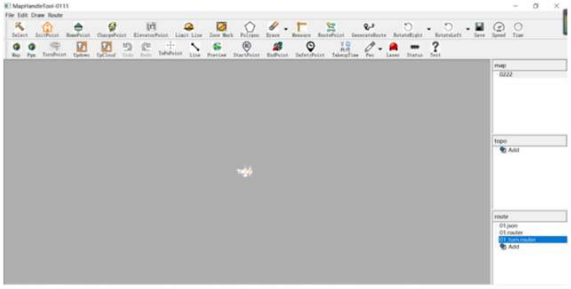
```
[Common]
Node = 0
#直线速度 默认0.4
line speed = 0.4
#转弯速度默认0.2
turn speed = 0.2
#每个路径点的停止时间，默认为0
stop time = 0
#设备版本是否为老版本，默认为老版本(设备上没有部署taskserver的上传文件接口) true
#若设备上已经部署taskserver的上传文件接口则可设置为false
is old version = true
#车宽 imop m2 m2+ 车宽为600  W1车宽为1200  300宽度为1050 单位：cm
car width = 1200
#json是否需要添加roate字段，默认false, true 需要添加rotate字段（目前只有W1需要这个字段）
roate flag = true
#roate flag为true时，两点之间的角度阈值，当两点之间的角度大于阈值时，会自动将该点的rotate值置为1
rotate angle threshold = 45
#有充电线或梯控线时，扇后3个路径点是否自动默认改为停障点标志位 true 默认  false ->为碍障点
stop flag = false
```

Add Deceleration Points

On the configured map, click the corresponding route name, then click Turnpoint. Click OK, wait 5 seconds, and click Save to add deceleration points.



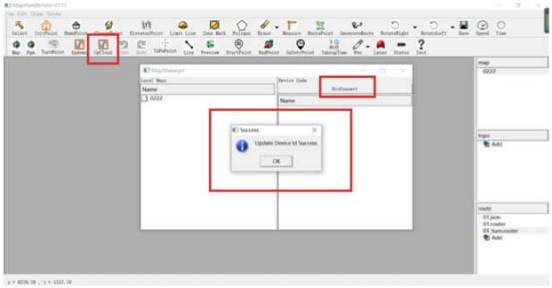
Reopen the map drawing software. A new XXX_turn.router route is generated.



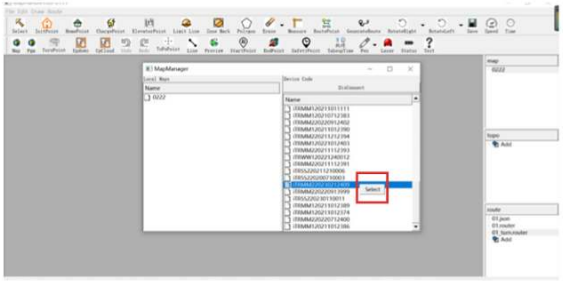
Upload Route

1. Click UpCloud. The Map manager window appears.

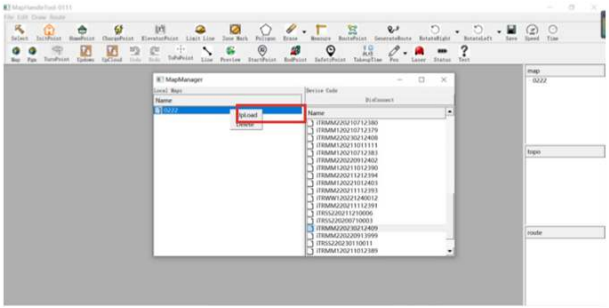
2. In the device number list on the right, click Connect. When the Success dialog appears, click OK.



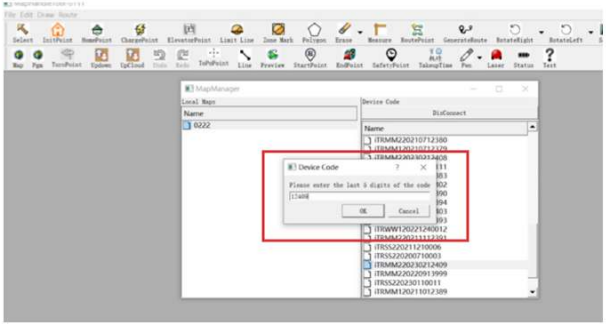
3. Right-click this machine's device number. When Select appears, click it.



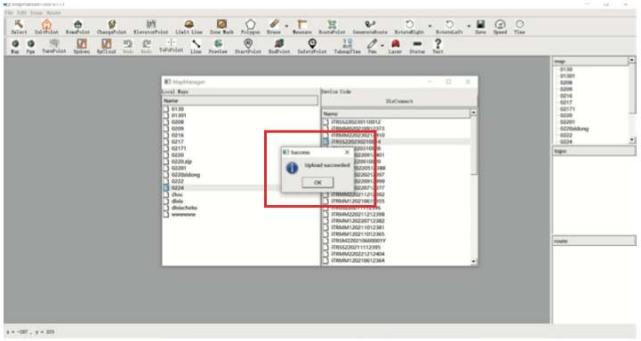
4 On the left, select the newly created map name, using 0222 as the example. Right-click it, and the UpLoad button appears.



5 Click UpLoad. In Device Code, enter the last five digits of the device number and click OK.



6 When the UpLoad Succeeded dialog appears, click OK. The route upload is complete.



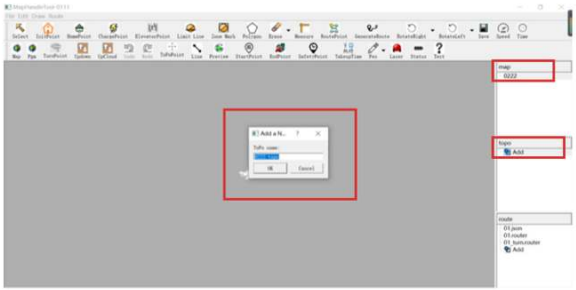
Note

1. Do not map too quickly. 0.3 m/s is recommended.

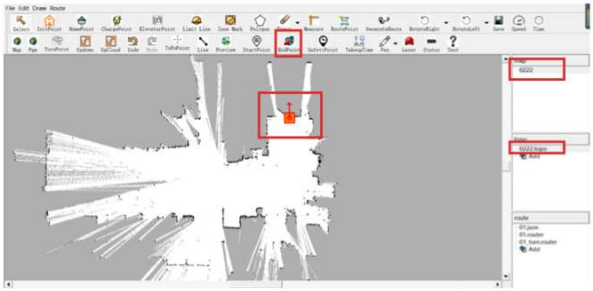
2. Do not reverse during mapping, as it affects map quality.

Topology Function (Return Route)

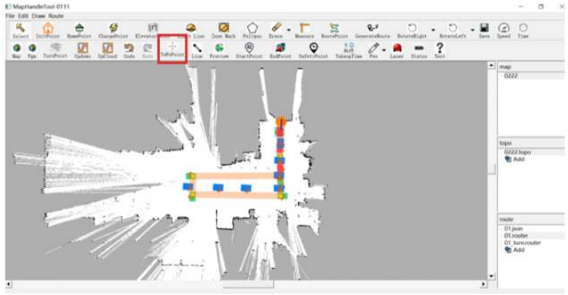
1. After route planning, reopen the map drawing software, select the corresponding map on the right, and click Add under topo. Click OK in the prompt to create it. The name cannot be modified, and only one can be created.



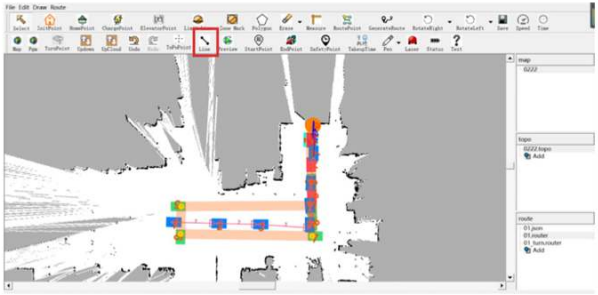
2. Click the newly generated XXX.topo under topo, find the charging station, and place the charging point on the charging station in the map. The charging point must fully cover the charging station.



3 Arrange the topology route according to the planned route. Click topology points to draw the approximate route, shown as blue points.



4 Click the topology line to connect the topology points. The last topology point must connect to the charging point.

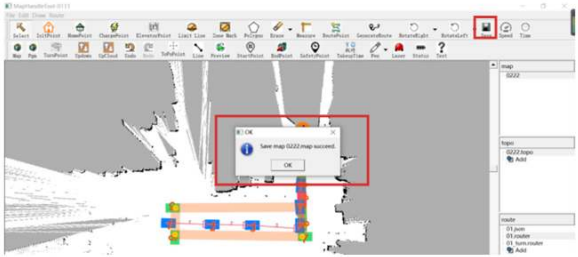


Note

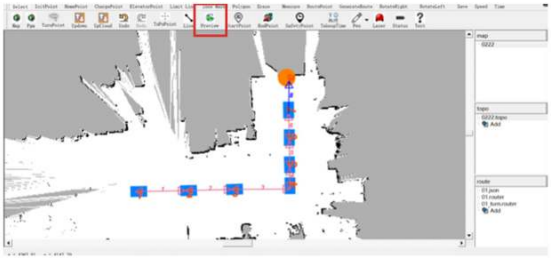
Place at least 3 topology points before the charging station.

The last 3-4 points should stay in a straight horizontal line with the charging station.

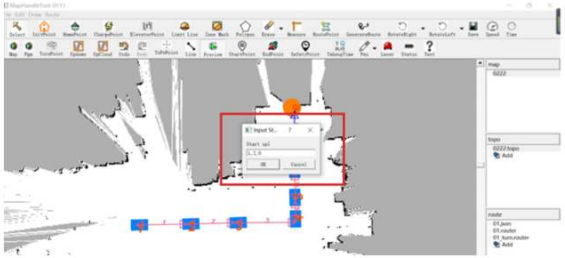
5 Click Save to save. Two dialogs appear in sequence; click OK.



6 Reopen the topology route and click Preview.

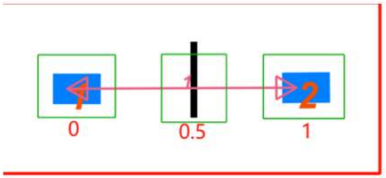


7 Randomly select one route, enter the start-point coordinates, and click OK.

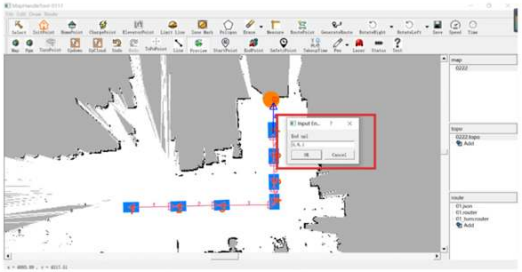


Example: 1,2,0 means route 1 to 2, and 0 means starting from the beginning of this route.

Note: The last number divides the route into three positions: start 0, middle 0.5, and end 1. Use English commas between numbers.

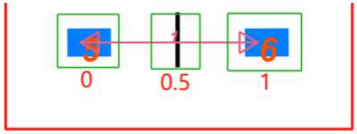


8 In the second dialog box, enter the end-point coordinates and click OK.

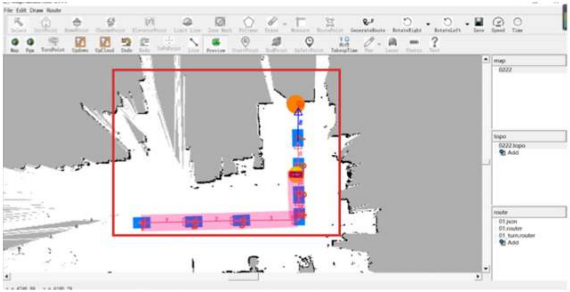


Example: 5,6,1 means route 5 to 6, and 1 means ending at the end of this route.

Note: The last number divides the route into three positions: start 0, middle 0.5, and end 1. Use English commas between numbers.



After clicking OK, if the preview works, a small vehicle appears on the map. If it cannot be used or any point on the map is wrong, a dialog appears.



9 If everything is correct, reopen the map drawing software and upload the map.

Map Tool Button Functions

Select

Function

Adjust points.

Usage

Click to select and drag to adjust. Drag a selection box to move multiple items together.

Start Point

Function

Point where the device is located when a task starts.

Usage

Select InitPoint and click a drivable route on the map. Use Select to move InitPoint or drag the arrow to adjust direction.

Limit Line

Function

No-entry line used to mark restricted areas, such as glass walls.

Usage

Select Limit Line, drag with the left mouse button to draw a line, then release to finish.

Polygon

Function

Defines the area where the device is allowed to drive.

Usage

Select Polygon, click points around the drivable area, then right-click to close the polygon.

Auto Route Start

Function

Start point for an automatic route.

Usage

Use with Polygon. Click inside the polygon, not too close to the border. Select StartPoint and click a drivable path. Use Select to move it or adjust the arrow.

Generate Route

Function

Generate route points.

Usage

Use with Polygon and StartPoint. Create Polygon and InitPoint on the map, then click GenerateRoute to generate the route from the start point.

Erase

Function

Erase temporary obstacles.

Usage

Hold the left mouse button and brush over temporary obstacles, such as people captured during mapping.

Measure

Function

Measure route length.

Usage

Click and drag with the left mouse button. Release the button to stop measuring.

Route Point

Function

Manually plan route positions.

Usage

After creating a start point, select RoutePoint and click points on the map to draw the route.

Rotate Right

Function

Rotate the map right.

Usage

Click RotateRight to rotate the map right by a certain angle.

Rotate Left

Function

Rotate the map left.

Usage

Click RotateLeft to rotate the map left by a certain angle.

Charge Point

Function

Automatic charging point.

Usage

Select ChargePoint and left-click to draw a Charge route. Right-click to finish. Click Save to store it in the route file. ElevatorPoint and ChargePoint cannot both exist in the same route.

Speed

Function

Adjust speed.

Usage

Select a point, click Speed, enter a speed up to 0.6, then click OK and Save. Double-click a RoutePoint to edit speed in Edit Route Point. Select multiple points and click Speed to change them together.

TurnPoint

Function

Add deceleration points.

Usage

After drawing the route, click TurnPoint to generate a _turn route file with deceleration points.

Updown

Function

Download maps.

Usage

Connect to the machine network, click connect, enter user ubuntu and password ubuntu. Some devices use ubuntu plus the last five digits. Right-click a map and choose DownLoad.

UpCloud

Function

Upload map.

Usage

Click connect on the right to show machines bound to the cloud. Right-click the target machine and choose select. On the left, right-click the map and choose UpLoad. Enter the last five digits and click OK.

Elevator Point

Function

Control the machine to enter and exit an elevator.

Usage

Select ElevatorPoint. Drag to draw the elevator-control route. Double-click the line to enter start floor and destination floor. Click Save to store it in the map file.

Note

Usage

ElevatorPoint only needs a two-point line. ElevatorPoint and ChargePoint cannot both exist in one route. Data format: x, y, angle, floor number, ElevatorPoint.

Time

Function

Temporary stop point.

Usage

Select the point where the machine should stay, click Time, enter the stay duration, and click Save.

Save

Function

Save the current route.

Usage

After drawing the route, click Save to save the current route.

Zone Mark

Function

Set a no-entry area.

Usage

Select Zone Mark and drag on the map with the left mouse button. The rectangular area is locked to prevent other devices from entering.

Line

Function

Draw topology lines.

Usage

Click Line to connect topology points, or connect a topology point to a safety point or charging point. Topology lines have direction and are bidirectional by default; right-click after selecting to set one-way.

ToPoPoint

Function

Set topology points.

Usage

Select ToPoPoint and set topology points on the map.

Preview

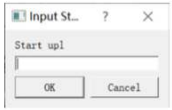
Function

Preview topology driving route.

Usage

Click Preview and enter the start position, the topology point before it, the next position, and the proportional position of the start point.

Preview



Usage

After clicking OK, enter the destination position and click OK again to preview the route. Click Preview again to close preview mode.

EndPoint

Function

Mark the charging station.

Usage

Select EndPoint and click the map to set the charging station or workstation position.

SafetyPoint

Function

Set a temporary parking point.

Usage

Select SafetyPoint and click the map to set a temporary parking point.

TakeupTime

Function

Calculate route duration.

Usage

Open a .router or .json route file and click TakeupTime. The route duration is displayed in the dialog box.

Pen

Function

Supplement the map.

Usage

After mapping, use Pen to fill missing areas or small site changes at the corresponding map position.

Add Task

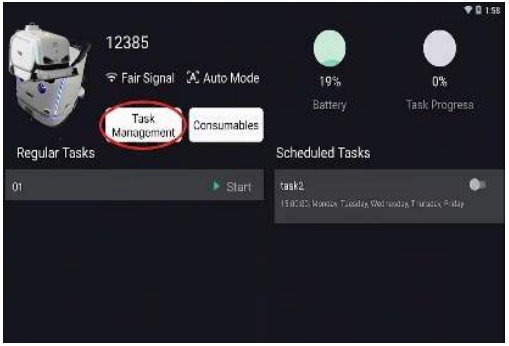
Add Regular Task

What are common tasks?

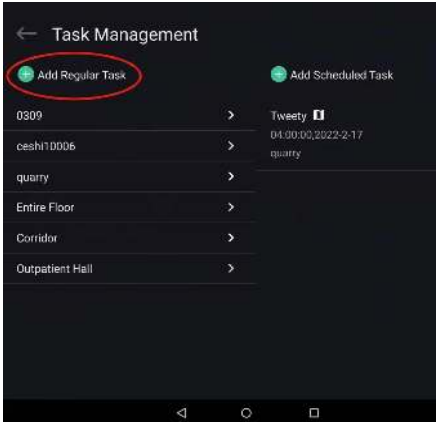
Answer: A regular task is one that requires manual activation by the user.

How to add a regular task?

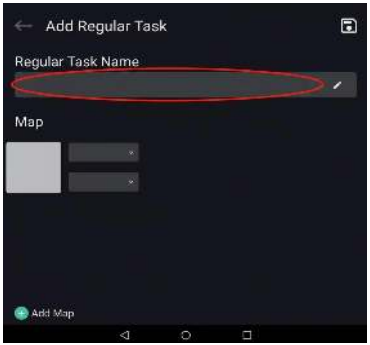
1. On the device's main interface, tap the [Task Management] button;



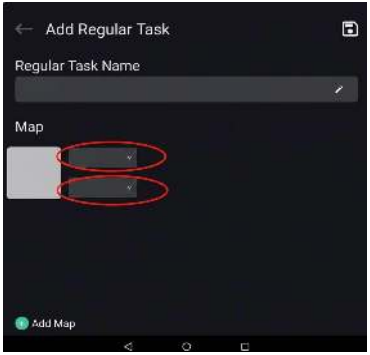
2. After entering the Task Management interface, click Add Regular Task;



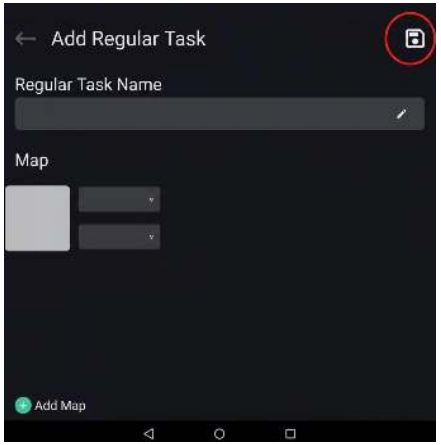
3 Enter the task name for a regular task;



5 Select the corresponding map and path;



4 Click the Save icon in the top-right corner to add a regular task successfully.



Note: Adding a map is only used in cross-map scenarios. In such scenarios, the endpoint of the path on the preceding map must coincide with the starting point of the path on the subsequent map; otherwise, the device cannot perform cross-map operations.

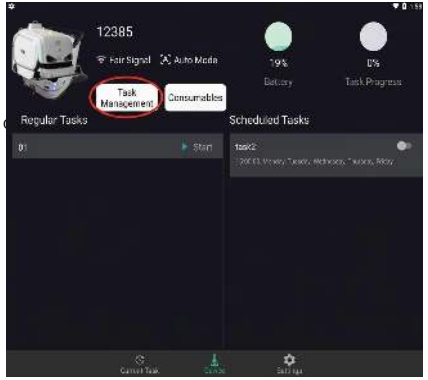
Add Plan Task

What is a planned task?

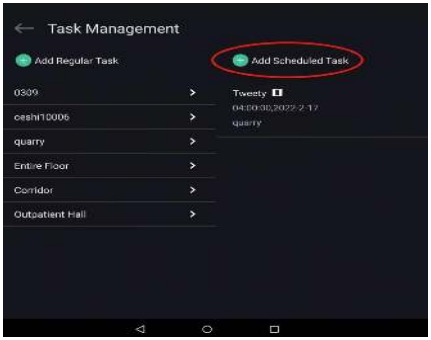
Answer: When the device is powered on, it automatically performs scheduled cleaning tasks at set times without requiring manual clicking of the [Start] button; these are known as scheduled tasks.

How to add a scheduled task?

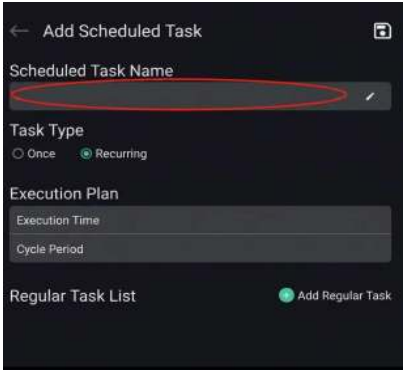
1 Click Task Management;



2 After entering the Task Management interface, click Add Scheduled Task;



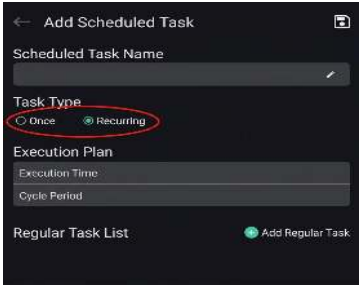
3 Enter the task name for the planned task;



5 Select task type.

Single run: This plan task starts only once.

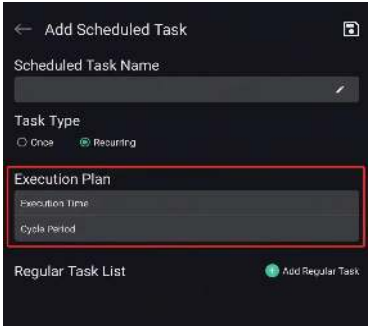
Cycle: The scheduled task is executed during the [Execution Time] within each [Execution Cycle].



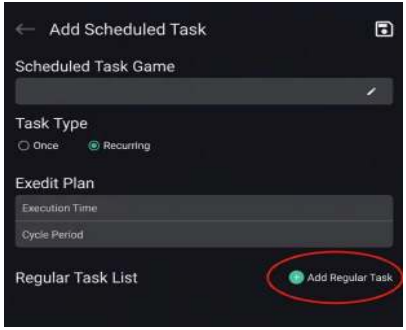
6 Select an execution plan.

Execution Time: A specific time point, e.g., 13:00; multiple selections are not allowed.

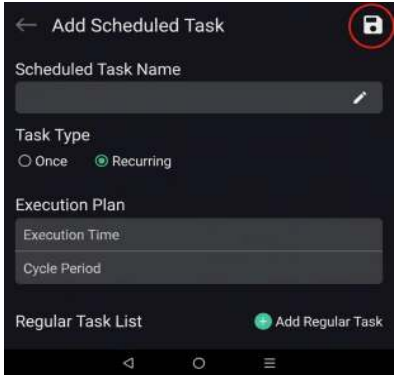
Cycle period: specifies the exact weekly time, e.g., Monday and Wednesday, which can be selected repeatedly;



4 Add the corresponding regular task;



7 Click the Save icon in the top-right corner to add the scheduled task successfully.



Device
Operation

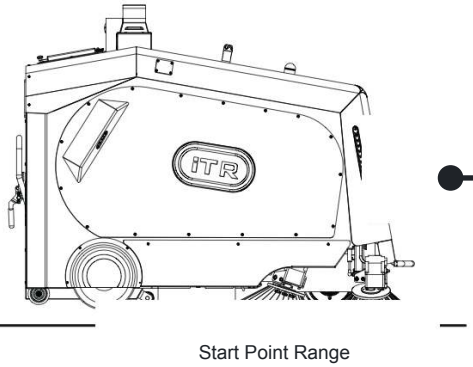
Start Auto Cleaning

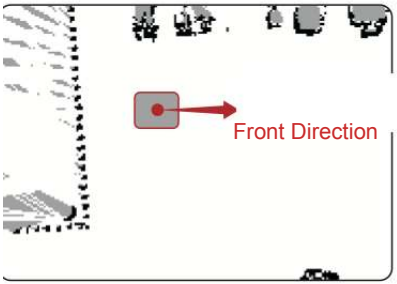
a. Auto Mode

In automatic mode, the device works autonomously according to the planned route.

b. Usage

1. Move the device to the task start point and align the front direction with the route start direction.





2. Select the corresponding task on the device screen, then click Start to begin execution.

Progress Status

During device operation, the following movement states may occur.

Normal Driving

Both automatic and manual modes include normal driving conditions, operating at speeds of 0-1 m/s when moving forward and 0-1 m/s when reversing.

Concession Mode

The automatic mode activates yield mode. If a person or obstacle suddenly appears ahead while the device is moving, the device stops advancing and enters yield mode. It pauses until the obstacle has passed, then resumes movement.

Active Obstacle Avoidance

The automatic mode includes active obstacle avoidance. If a person or obstacle remains ahead for an extended period while the device is moving, the device actively avoids it.

Location Loss

Auto mode may cause location loss. The device may fail to follow the designated route and may circle in place or move unpredictably.

Emergency Stop State

The emergency stop state must be initiated manually. When the emergency stop button is pressed while the device is performing a task, the device stops moving, the side brushes beneath it stop operating, and the warning light remains red.

Return Function

The return function includes manual return, automatic return when battery level falls below 10%, and automatic return when clean-water level is below 10% or wastewater level exceeds 90%. If a safety point is set, the device reaches the safety point before returning to the workstation; otherwise it returns directly.

Note: During return, only the water-absorbing motor remains active while the water-absorbing probe descends. At the final three points, obstacle avoidance is disabled and only obstacle-stop protection remains available.

Manual Charging

1. Move the device near a socket.

2. Connect the charger to the device by inserting one end into the charging port on the back. You will hear a click, indicating that the charger is properly inserted.

3. Connect the charger plug to the power socket. The red indicator light on the charger will flash, indicating that the device is charging.

4. When the device is fully charged, the green indicator light remains illuminated continuously. Promptly unplug the charger to avoid prolonged power supply and possible safety risks.

Note: Follow safety guidelines strictly when using the charger.

Automatic Wireless Contactless Charging (Optional)

The device can be optionally equipped with an automatic wireless contactless charging station, enabling unmanned cleaning robots to recharge automatically.

The default threshold for wireless contactless charging is 80% battery level. In both automatic and manual modes, wireless charging does not start when the battery is above 80%; it starts when the battery falls below 80%. When the charge reaches 100%, wireless charging stops and the device enters standby mode.

In automatic task mode, when the battery level drops below 10%, the device automatically ends the current task and returns to the charging station for wireless contactless charging.

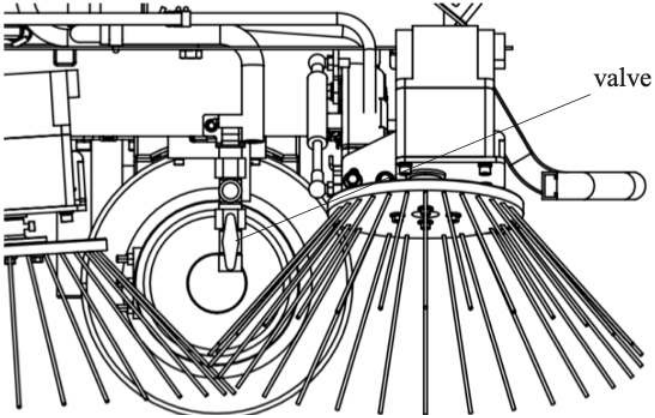
Add Water

When the device is powered on, insert the water pipe into the right-side water inlet to add clean water.

Note: During water addition, monitor the water level on the device screen. Stop adding water immediately when the level approaches 100%.

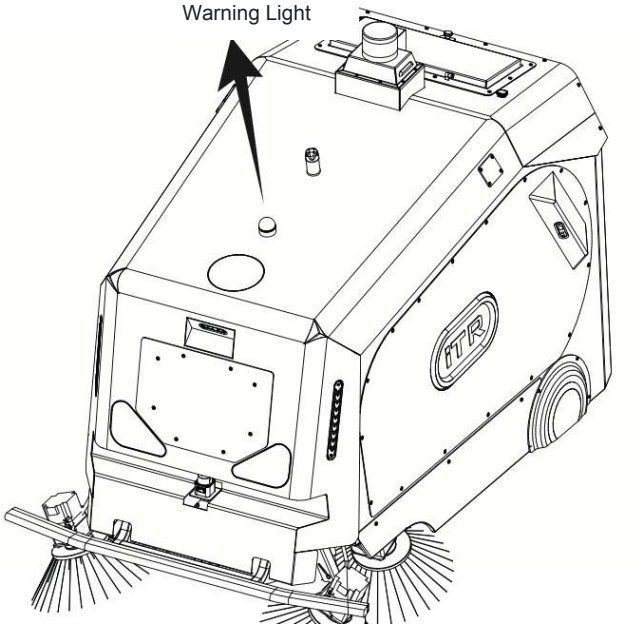
Drain Water

Manually Drain the Clear Water.



Warning Light Status

The warning light is on the upper side of the body.



a. Solid Green

The emergency stop button is pulled up, and the device can start cleaning normally.

b. Solid Yellow

The water level or battery level is low.

c. Solid Red

The device is in the emergency stop state.

d. Flashing Green

The device is performing wireless charging. Note: This differs from solid green; the meanings are different.

Debugging

Startup

Fault Status	Possible Reason	Solution
Cannot boot	Battery low	Move the device near a power source and charge it.

Map Construction

Fault Status	Possible Reason	Solution
The main wheel cannot be locked.	The emergency stop button was pressed.	Pull up the emergency stop button.
The main wheel cannot be locked.	The manual switch was not pressed to enter manual control mode.	Press the automatic switch button again and switch the device to automatic mode.
Cannot switch to remote drawing when a remote controller is connected.	The controller is not connected to the device.	Try reconnecting.
Mapping with a remote device pauses.	The signal quality in this area is poor.	Wait for the device signal to improve before moving the device.

Start the Cleaning Task Automatically

Fault Status	Possible Reason	Solution
The device cannot start normally when starting a task.	The emergency stop button is pressed.	Pull up the emergency stop button.
The device cannot start normally when starting a task.	The device is not within the start point range.	Move the device to the route start point.
The device travels abnormally or circles during task execution.	Dust or dirty water is on the LiDAR surface.	Wipe the LiDAR with a clean cloth and keep the surface unobstructed.
The device travels abnormally or circles during task execution.	Localization is lost.	End the task and restart the device.
The device travels abnormally or circles during task execution.	The site has changed significantly.	Redeploy the device map, route, and task.
The device travels abnormally or circles during task execution.	The wrong task is selected.	Select the task for the current area again.
Front obstacle avoidance is triggered when turning or making a U-turn.	The planned route is too close to an obstacle in front of the device.	Modify the device route.
Side edge-cleaning distance is insufficient.	The planned route keeps the device side too far from the wall.	Modify the device route.

Start the Cleaning Task Manually

Fault Status	Possible Reason	Solution
The device cannot move.	The emergency stop button was pressed.	Release the emergency stop button.
The device cannot move.	The automatic switch button was not pressed.	Press the automatic switch button.
The device cannot move.	Collision avoidance or edge detection was triggered.	Press the emergency stop button, then release it and wait several seconds.

Manual Charging

Fault Status	Possible Reason	Solution
The charger is plugged into the power source, but the indicator light does not illuminate.	The charger is not connected securely.	Ensure the charger is securely connected to the device and power source.
The charger is plugged into the power source, but the indicator light does not illuminate.	The charger switch is not turned on.	Turn the switch on.

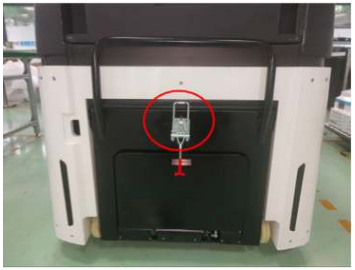
Automatic Charging

Fault Status	Possible Reason	Solution
When the device approaches the wireless charging station, the green indicator light on top does not flash and wireless charging does not start.	The vehicle transmission and reception modules are not centered.	Re-run the automatic charging process.
When the device approaches the wireless charging station, the green indicator light on top does not flash and wireless charging does not start.	The gap distance is too close.	Keep the distance greater than 2 cm.
When the device approaches the wireless charging station, the green indicator light on top does not flash and wireless charging does not start.	The distance between them is too great.	Keep the distance less than 7 cm.
When the device approaches the wireless charging station, the green indicator light on top does not flash and wireless charging does not start.	The battery component is in a high-temperature state.	Lower the ambient temperature.

Maintenance Overhaul

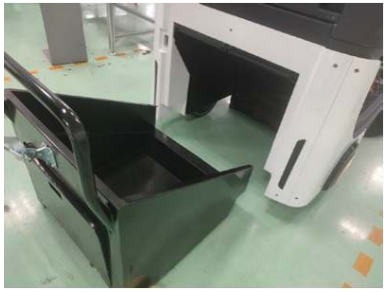
Clean the Trash Bin

The trash bin is located at the back of the device. To clean it, remove the bin first.

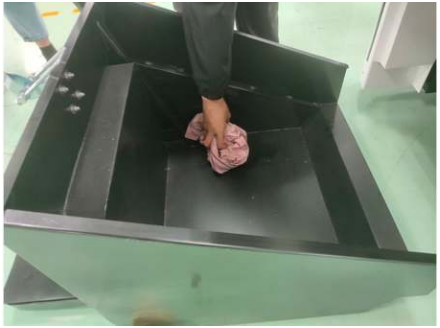


1. Hold the trash bin handle with one hand, then lift the red snap-fit handle with the other until it releases.

2. Place the trash bin down and remove it.



3. Pour the trash into the bin and wipe it clean with a cloth.

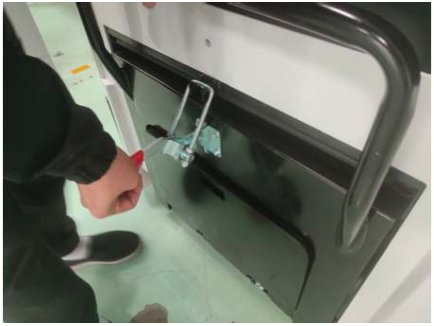


4. After cleaning, align the trash bin with the equipment.

5. Push the trash bin slowly into the device.

6. Push it to the innermost position. Use your foot to support the back of the trash bin and lift its lid.

7. Push the trash bin into place.



8. Fasten the clip.

Adjust Spray Volume

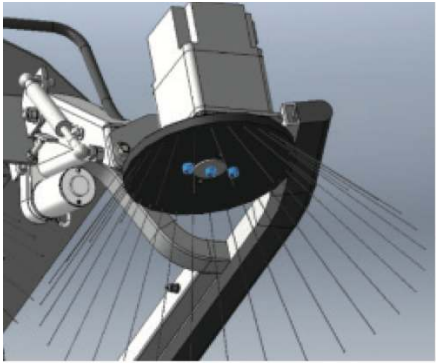
1. The water pump control valve is on the left side of the screen.

2. Increase the setting clockwise, decrease it counterclockwise, and set it to the lowest level to turn off the spray.

Change Brush

Brush Disassembly Steps

1. Remove the two hex screws and the central nut that secure the side brush to the motor. Hold the brush plate with both hands and pull it downward vertically to remove the side brush.



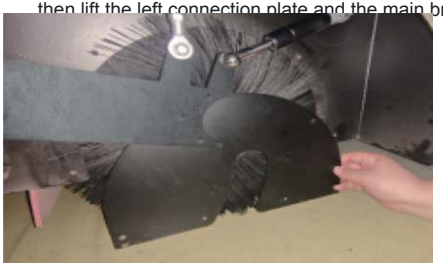
Change the Brush

Steps for Removing the Brush Roller

Note: The roller brush is located in the center of the device bottom. To replace it, go to the left bottom of the device.

1. Use a hex key to unscrew the rubber strip pressure plate screw. Once the h and rubber strip can be taken o

2. Unscrew the screw that secures the roller brush baffle, remove the baffle, then lift the left connection plate and the main brush upward.



4. The roller brush can now be removed for replacement.

Cleaning the Housing

Use a clean, dry cloth to wipe and clean the housing. It is recommended to do this once a week.

Cleaning the Screen

Use a clean, dry cloth to wipe the device screen.

Note: Keep the device screen away from water at all times.

Cleaning the Sensors

a. LiDAR: Use a clean, dry cloth to gently wipe the LiDAR sensor. Ensure the LiDAR surface is free of dirt and contamination.

b. Binocular Camera: Use a clean, dry cloth to gently wipe the binocular camera. Ensure the binocular camera surface is free of dirt and contamination.

c. Camera: Use a clean, dry cloth to gently wipe the camera lens. Ensure the camera lens is free of dirt and contamination.

Storage

The equipment should be stored in a cool and dry place.

Maintenance Frequency

Components	Maintenance Frequency	Recommended Replacement Frequency
Water Tank	Depends on water tank usage	/
Dustbin	Depends on dustbin dirtiness	/
Side Brush	Depends on side brush usage	3-10 months
Main Brush	Depends on main brush usage	3-10 months
Squeegee	Depends on squeegee usage	3-10 months
Outer Casing	Recommended once a week	/
Screen	Recommended once a week	/
Sensors	Recommended once a week	/

iTR

ТЕХНОЛОГИИ ЧИСТОТЫ

КАК С НАМИ СВЯЗАТЬСЯ

ТЕЛЕФОН

+7 (911) 999-10-99
+7 (812) 679-40-99

Пн–Пт: 9:00–18:00
Сб: 10:00–15:00

ЭЛЕКТРОННАЯ ПОЧТА

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рабочего дня

ОФИС

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Консультация —
по предварительной записи

ЮРИДИЧЕСКАЯ ИНФОРМАЦИЯ

ООО «КЛИМАТСТАР»
ИНН 7814609066