

Product User Manual

Sweeper YZ



Version 0.2

JT- Innovation (Guangdong) Intelligent Technology Co., Ltd.



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Safety Instructions



Safety Guide

To ensure safety, please follow the following rules when operating and using the Autonomous Driving Sweeper YZ :

Operating Prerequisites

- If you have not received formal training or authorization;
- If you have not carefully read and fully understood the user manual;
- If you are under the influence of alcohol or drugs and are not in a clear state of mind;
- Unless you are physically and mentally capable of operating this sweeper properly according to the user manual;
- If the filter is not installed or the filter is filter element is seriously damaged;
- If the sweeper is in unsuitable working conditions, such as charging;
- If the sweeper is equipped with unauthorized accessories or consumables by JT-Innovation, as using other consumables or accessories may cause danger;
- If the environment where the sweeper is located is not suitable for the sweeper to work, such as the ground material does not meet the requirements, the ground condition does not meet the cleaning standards, or there is a possibility of falling objects at high altitude;
- Do not operate the Sweeper YZ if any of the above conditions exist

Before turning on the sweeper

- Check if the battery is fully charged;
- Check if all parts of the sweeper are intact;



- Check if the consumables of this sweeper are in normal and usable condition;
- Check if the filter is installed;
- Check if the emergency stop button is working properly;
- Check for any abnormal alarms;

During the use of the sweeper

- Strictly control the movement and other operations of the Sweeper YZ according to the user manual;
- In case of an emergency situation that requires the sweeper to be stopped quickly, immediately press the red emergency stop button;
- At least 2 people are required to cooperate in moving the sweeper on slopes (≤ 12 degrees) to avoid danger;
- On smooth surfaces, control the movement of the sweeper at a slower speed to avoid wheel slippage and potential danger;
- When controlling this sweeper to move backward, please check the rear situation in real time.
- Please report for repair in time when this machine breaks down;

After completing the cleaning task

- When the sweeper is idle, please make sure to completely power off, except when charging.
- Please empty the trash can and clean the filter effectively. Replace the filter if necessary.
- Please park this sweeper in the designated position, and the parking area must be on a flat ground.

Explanation of abnormal working scenarios



- Sweeper YZ is only suitable for normal operation in standard scenarios. In order to maximize the effectiveness of the Sweeper YZ and ensure work efficiency, please do not use this product on surfaces that are not suitable for the Sweeper YZ, such as soil surfaces, grass, artificial turf, and wooden floors. Also, do not use this product in scenes with poor ground conditions, such as uneven surfaces, potholes, large pieces of garbage (larger than 200*50*50), long and narrow objects (water pipes, wires, ribbons), high temperature flammable materials, sticky substances, etc. In such cases, please clean or maintain the ground until it meets the cleaning standards before using the Sweeper YZ to start the cleaning work.
- If the surrounding walls of the environment are made of glass or other highly transparent materials, some sensors of the Sweeper YZ may not work properly. Therefore, we do not recommend using the Sweeper YZ in such environments to avoid unnecessary risks. If you need to use it, please contact professionals for professional technical guidance.
- If the sweeper is placed on a pure slope with an angle greater than 12 degrees, please do not use the sweeper on that surface. The Sweeper YZ only supports automatic operation on flat surfaces.
- If you are unsure whether our product can be used in your specific scenario, please contact JT-Innovation technical support for detailed information.

Sweeper Storage Instructions

- After each use of this sweeper, when not in use, please promptly dispose of all garbage in the trash can and place the sweeper in a dry and ventilated place. The temperature and humidity should meet the storage standards of this sweeper. Please do not store this sweeper in a damp and poorly ventilated place to avoid affecting its service life.



- When the sweeper is not used for a long time, in addition to meeting the above requirements, please fully charge the battery, unplug the power plug, and then make sure to fully charge it once every month to ensure sufficient power and avoid battery failure due to long-term non-use. If the sweeper is not unpacked and used, please make sure to fully charge it once every 3 months.

Safety Instructions

- This sweeper is an automatic intelligent sweeper (cleaning robot). Before starting automatic operation, please keep the sweeper stay away danger.
- It is forbidden to manually push this sweeper. Only the operator is allowed to manually move it during task execution.
- The maximum slope is 12°.
- When the sweeper is operating, the wheels may rotate at high speed. Please be careful not to step on your feet or other objects.
- When the sweeper collides with an obstacle, it may come into direct contact with the obstacle and may leave scratches. Please move it carefully.
- When the sweeper is working, the roller brush will directly contact the ground with a certain pressure. Be careful not to place foreign objects under the roller brush to avoid affecting its operation.



Product Overview



Product Introduction

The Sweeper YZ is mainly targeted at customers who have cleaning tasks, appearance requirements, cloud broadcasting platform requirements, and intelligent mobile platform system requirements. It is a comprehensive intelligent sweeper that meets various user needs. It is widely used in various road surfaces in parks, and municipal road. It can clean dozens of types of garbage such as sand, dust, leaves, cans, cigarette butts, fruit peel scraps, mineral water bottles, milk tea cups, plastic bags, cigarette boxes, and napkins.

Product List

Product Model	Item	Item Description	Quantity	Remarks
Sweeper YZ	All-in-One sweeper	Sweeper YZ	1	
	Sweeper Charger	220V 48V 30A	1	
	Remote Control	R12DSM	1	Not included, needs to be purchased separately
	Remote Control Battery Charger	DC 9V-16V($\geq 30W$)	1	Not included, needs to be purchased separately
	Axle Unlocking Power Bank	24V, 2A	1	
	Charger Adapter Cable	48v	1	
	DC2.5 Power Cord	DC5.5*2.5	1	

Core Functions

Cleaning Performance

- **[Excellent Cleaning Effect]** Equipped with JTclean-2nd generation cleaning technology, it adopts a V-shaped dual main brush + 4 side brush design, efficiently sweeping away sand, dust, leaves, cans,



cigarette butts, paper scraps, mineral water bottles, milk tea cups, plastic bags, cigarette boxes, and napkins, among dozens of other types of garbage.

- **[Exceptional Cleaning Efficiency]** Retractable 4-side brush design, the side brush width can be dynamically adjusted in real time within the range of 1.0-1.8m, and the cleaning efficiency can reach a maximum of 10,000 m²/h.
- **[0 distance close to roadside sweeping]** •Using a high-precision sensing, positioning and control system, combined with a four-sided brush design, the cleaning can achieve zero-distance close to roadside cleaning and cleaning coverage rate of more than 95%.
- **[Outstanding Dust Control Performance]** Equipped with a professional filter dust vibration cleaning system and a spray dust suppression system, achieving excellent dust control effects, and supports self-cleaning of the dust filter.
- **[Extra Large Cleaning Capacity]** Equipped with a 120L trash can and a 50L water tank, it significantly reduces the frequency of daily trash unloading and water refilling, resulting in higher efficiency.

Mobility Performance

- **[Strong Climbing Ability]** Capable of handling slopes up to 12°, widely suitable for various surfaces in parks, campuses, and municipal roads.
- **[Powerful Drive System]** Independent dual rear-wheel drive design allows for flexible on-the-spot turning and U-turns, with an obstacle clearance height of up to 7cm and a trench width of up to 5cm.
- **[Long Battery Life]** 6 hours battery life. The sweeper supports automatic charging when the cleaning task is completed or when the battery is low.

Smart Operation



- **[Extended Battery Life]** Equipped with our proprietary JTauto-2nd generation automatic navigation technology, and featuring functions such as automatic charging, automatic water replenishment, trash can remaining volume detection, and automatic trash can unloading, it achieves a full-cycle autonomous operation loop for daily tasks. Cleaning personnel only needing to handle the trash at set times and locations, greatly reducing the need for operator intervention and truly realizing unmanned operation.
- **[Precise Sensing and Avoidance]** Utilizing a fusion of multiple sensors for perception and intelligent control decision-making, the sweeper accurately avoids both dynamic and static objects.
- **[Efficient Path Planning]** Equipped with an efficient path planning algorithm, it supports optimal cleaning path planning for various complex environments, ensuring smooth and efficient cleaning.
- **[Safety Assurance]** Relying on JTauto-2nd generation automatic navigation technology, it is equipped with 360° omnidirectional environmental perception, ensuring safe automatic operation in all applicable scenarios.
- **[Inspection-style Cleaning/ Patrol Cleaning]** Based on deep learning technology, it supports automatic identification of dozens of types of trash, supports both inspection-style and coverage-style cleaning, achieves refined outdoor operations, adapts to different cleaning needs in various scenarios, and significantly improves cleaning efficiency.
- **[Automatic Recall on Rainy Days]** Based on light and rainfall detection technology, the device intelligently avoids rain, flexibly responds to changing weather, and ensures the safety of the device's operation.

Intelligent Operations and Maintenance

- **[Full-Time Operation]** Based on IoT technology, relying on cloud platforms and multi-end APP control,



it provides scheduled cleaning, intelligent operation scheduling, and cleaning data statistics, achieving a full-process closed-loop operation for the device.

- **[Remote Driving]** A remote takeover system based on 5G communication, including remote driving and remote troubleshooting, used for remote control of the sweeper in specific situations, comprehensively ensuring the safety and stability of sweeper operation.
- **[Remote Diagnosis]** Integrates multi-source data fusion with embedded intelligent diagnostic algorithms to achieve status monitoring, precise alarms, fault diagnosis, and predictive maintenance in complex operational environments for the equipment.
- **[Automatic Brush Adjustment]** Utilizing sensor technology, Sweeper can adjust the rolling brush according to the wear situation automatically. At the same time, it supports regulating cleaning brush contact pressure, reducing brush wear, and supporting a variety of cleaning modes to effectively reduce customer use costs.
- **[Remote OTA Upgrade]** Supports remote OTA upgrades to continuously improve the sweeper's intelligent algorithms, enhancing various functions and performance.

Application Scenarios

The Sweeper YZ is primarily used on hard, flat surfaces, such as granite, asphalt, concrete floors, epoxy flooring, plastic tracks, regular brick pavements, pebble surfaces, square tile floors, and small cobblestone surfaces, etc.

Typical application scenarios are as follows:

- Parks, Squares & Scenic Areas
- Transportation Hubs & Municipal Access Roads



- Industrial Parks & Large Warehouses
- Hospitals & Industrial Parks

Sweeper YZ Specification

Specification Type		Specification Entry	Specification Details
Basic Information		Product Model	YZ
		Product Name	Autonomous Driving Sweeper YZ
		Product Form	Autonomous driving sweeper
		Shell Material	ABS
		Product Dimensions	Length Width Height: 2270*1050*1710mm
		Net Weight	450kg (including battery, with full water tank)
Sweeper Specification	Cleaning Performance	Sweeping Speed	0 ~ 5km/h
		Sweeping Width	1.0 ~ 1.8m
		Sweeping Efficiency	Maximum 10000 m ² /h
		Garbage	Supports sweeping of regular waste, such as sand, dust, cigarette butts, paper scraps, broken stones, leaves, cans, mineral water bottles, etc.
		Road Surfaces	Suitable for hard, flat surfaces, such as granite, asphalt, concrete, epoxy flooring, plastic tracks, orderly brick pavements, pebble surfaces, square tile floors, cobblestone surfaces, etc.
		Cleaning Efficiency	Not less than 90%
		Close to Roadside Distance	Not greater than 2cm
		Operational Noise	≤ 70dB
		Trash Can Capacity	120L
		Trash Can Dumping	Supports automatic loading and unloading of the trash can, compatible with selected 120L municipal sanitation standard trash cans.
	Cleaning and Dust Control	Water Tank Capacity	50L
		Continuous Water Spraying Time	90 minutes
		Dust Suppression by Spraying	Supported
		Water Refilling Method	Manual Refilling/Automatic Refilling
		Dust Filtration System	Effectively suppresses dust; automatic dust vibration
	Mobility	Rated Speed	0 ~ 8km/h



	Performance	Working Endurance	4 ~ 6h
		Slope	Maximum 12°/20%
		Obstacle Crossing Ability	Maximum 7cm
		Maximum Gap Crossing Ability	Maximum 5cm
		Braking Ability	Supports emergency braking, driving braking, parking braking, and power-off braking.
		Minimum Stopping Distance	At a full load speed of 5km/h, the stopping distance is no more than 50cm
		Minimum Turning Radius	No more than 1.8m (supports spot turning)
		Control Modes	Remote Control Mode/Autonomous Driving Mode/Remote Takeover Mode
		Remote Control Methods	Smartphone APP Remote Control/Tablet Remote Control
	Automatic Operation	Positioning Capability	The positioning error is no greater than ±5cm
		Mapping Capability	Up to 1 million square meters
		Obstacle Avoidance Capability	Supports detection and avoidance of both static and dynamic obstacles.
		Protective Devices	Front bumper collision detection; side brush collision detection; cable and hose drag detection.
		Anti-fall Capability	The device supports fall detection to ensure an emergency stop during motion, with a detection distance of less than 2m; applicable scenarios include stairs, seaside, lakeside, etc., to ensure the safety of the equipment and personnel.
		Operating Hours	Meets the operational needs of different time periods, including noon and nighttime operations.
		Operating Weather	Supports autonomous recall in rainy weather, ensuring the safety of the device in light, moderate, and heavy rain.
	Electrical Parameters	Battery Type	Lithium Iron Phosphate Battery
		Battery Capacity	48V * 150AH
		Charging Method	Manual Charging/Automatic Charging
		Charging Time	Standard Charge: 30A Full Charge Time 5 hours Fast Charge: 50A Full Charge Time 3 hours
		Communication Method	4G/5G Communication
		Fault Diagnosis	Supports key sensor self-check, whole sweeper motor testing, and more
	Human-sweeper	Voice Output	Maximum volume decibel level is 100 db, with a maximum playback distance of 100m.



	Interaction	Voice Input	Supports voice input.
		Sweeper Indicators	Status indicators, turn signals, brake signals, etc.
		Interaction Buttons	Emergency stop button, power on/off button, power supply button
		Control Mode	Remote Control Mode/Autonomous Driving Mode/Remote Takeover Mode
		Remote Control Methods	Smartphone APP Remote Control/Tablet Remote Control
	Routine Maintenance	Device Lifespan	The normal working lifespan of the entire sweeper is \leq 5000 hours; with 4 hours of work per day, the device lifespan is not less than 5 years.
		Protection Level	Meets IP43 standards
		Water Resistance Level	Not less than 10cm
		Upgrade Mode	Supports OTA upgrades
		Cleaning Brush Adjustment	Supports automatic adjustment of the cleaning brush
	Working Environment	Working Environment	Temperature: -10°C ~ +60°C; Humidity: 20% ~ 75% RH (no frosting)
		Altitude Requirements	0 ~ 2000m
		Environmental Factors	There should be no presence of flammable dust, flammable liquids, corrosive gases, etc. There should be no electromagnetic interference, wireless frequency interference objects, etc. The operating surface should not vibrate, and the working environment should be free of impacts and collision objects, etc.
		Weather Factors	Available weather: clear, partly cloudy, overcast, light rain, light snow Unavailable weather: moderate rain, heavy rain, moderate snow, heavy snow, hail, sandstorms, foggy conditions
		Lighting Factors	Daytime or nighttime with lighting (Illuminance > 50 Lux)
		Communication Requirements	Equipped with 4G and GPS coverage
		Driving Environment	Road Type: For non-public or municipal outdoor roads Surface Requirements: Must be a flat, hardened surface without standing water Slope Capability: Less than 12°
		Parking Requirements	Parking Space Structure: The parking space and nearby ground should be level; if there is a carport, try to avoid using metal materials for construction. Parking Space Size: Supports perpendicular parking, parking space size \geq 3.3m (L) \times 2.0m (W)
	Transportation and Storage	Storage Environment	Temperature: -25°C ~ +60°C; Humidity: 20% ~ 93% RH
		Transportation Requirements	Transport and store within a temperature range of -25°C to +60°C, and can withstand short-term transport and storage at temperatures up to +70°C for no more than 24h



	Packaging Certification	Product Certification	Whole sweeper: CR/CE Battery: MSDS/UN38.3/Marine Assessment Certificate/Air Transport Assessment Certificate/Safety Guarantee
		Product Instruction Manual	Includes instruction manuals in English and Chinese



Operating Instructions



The content of this manual is primarily for the reference of personnel who directly operate or manage the Sweeper YZ. Those who directly operate the Sweeper YZ need to understand how to control the sweeper's movement, perform cleaning tasks, charge, and other basic operations. Managers of the Sweeper YZ, in addition to understanding the aforementioned information, also need to know how to map, create cleaning paths, deploy cleaning tasks, view cleaning task completion reports, and check the health status of the among other advanced operations. The following will introduce these operations in sequence.

Sweeper Exterior Introduction

The main components and interfaces of the sweeper's exterior include: the main LIDAR, blind spot radar, rain sensor, depth camera, emergency stop button, remote driving camera, ultrasonic sensor, headlights, etc.

The location and quantity of each component are shown in the picture below:





Emergency Stop Button



In case of an emergency, the emergency stop button on the sweeper can be pressed to immediately halt its progress. The emergency button is located at the rear of the sweeper. This button is primarily used to mitigate losses effectively in the event of a malfunction or other urgent situations, ensuring the safety of persons and property. Press the button to stop the sweeper. At this point, it is not possible to manually push the sweeper or perform any other operations. If you need to restore the sweeper to its pre-emergency stop state, please rotate the emergency stop button clockwise and release it, after which the sweeper can continue to run or work.

Note: After pressing the emergency stop button, the remote control cannot be unlocked. The emergency stop button must be released before the remote control can be unlocked.

Sweeper Control Box Instructions

The sweeper has a control box at the rear. To open the control box, as shown in the picture below, use the key to unlock the control box and then lift the lid upwards.



The interface inside the control box is described as follows:

- Power Button: Turn the power knob Button to the right once to start the sweeper. Turn it to the right again and hold for more than five seconds to turn off the sweeper.



- **Battery Button:** Pressing the battery Button will activate the battery status. Pressing the battery Button again will turn off the battery status.
- **Charging Port:** Aviation Socket: When manually charging, the charger's aviation plug connects here.
- **USB Port:** Industrial computer USB external interface, can connect to keyboard, mouse, USB drive, etc.
- **bd9 Interface:** Typically used for device debugging
- **Ethernet Port:** Industrial computer Ethernet external interface
- **Battery Indicator:** Displays remaining battery level



Top Cover Button

Pressing the top cover button will raise the cleaning sweeper's top, and once raised, the sides of the sweeper can be opened for maintenance and operation



Remote Control Instructions

Introduction to the Remote Control Appearance

Note: This remote control is not Standard configuration. If you choose to purchase this remote control, you can refer to the following operation instructions. If not purchased, you can refer to the mobile APP instructions for operating the sweeper.

Important note: The sweeper is paired one-to-one with its remote control at the factory. Please do not adjust or toggle them arbitrarily.

During regular operation of the sweeper, we generally only use the remote control's power button, forward push rod (left), direction push rod (right), and the 8 toggle buttons A-H, as shown in the picture below:

Remote Control Startup Instructions

Before turning on the controller, push the direction push rod on the right side to the bottom position, otherwise, an alarm will sound ('Warning: Mixed control is on, please lower throttle'), and the remote control will not turn on.



Push the joystick forward before turning on the remote control to the lowest position



Normal startup interface

The joystick is not in the lowest position before turning on the remote control



Abnormal alarm interface
Warning Mixed control is already on ,
please keep the throttle low

sweeper Control

Sweeper Movement: Move the H lever to 1, use the right joystick to control the front wheel steering left and



right, and the left joystick to control forward and backward movement

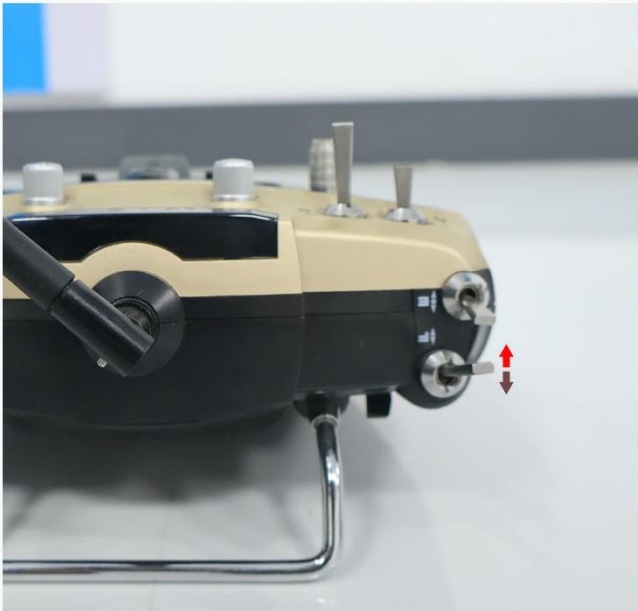


Lever Control

1. **Side Brush Lever Control**, move the 'F' lever to 1, move the 'A' lever to 1, use the right joystick to control the side brush expansion or contraction; move the lever to the left to close the side brush; move the lever to the right to expand

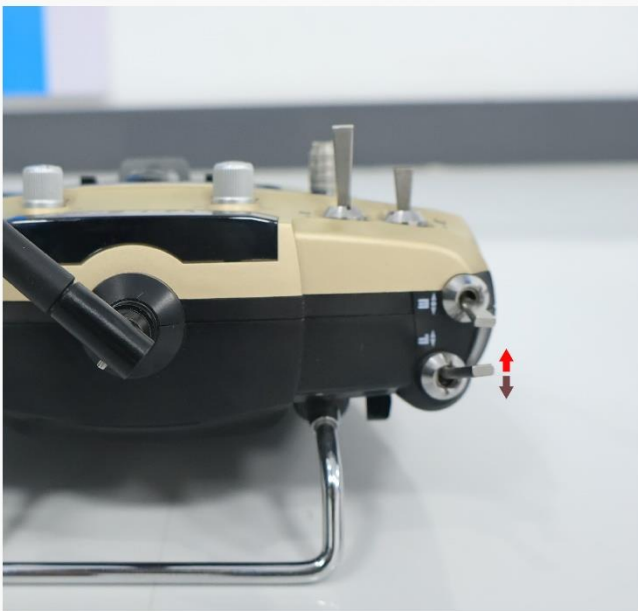


Control the opening and closing of the side brush



2. **Main Brush Lever Control**, move the 'F' lever to 1, move the 'B' lever to 1, use the right joystick to control the lever ascending or descending; move the lever to the left to lower the main brush; move the lever to the right to raise

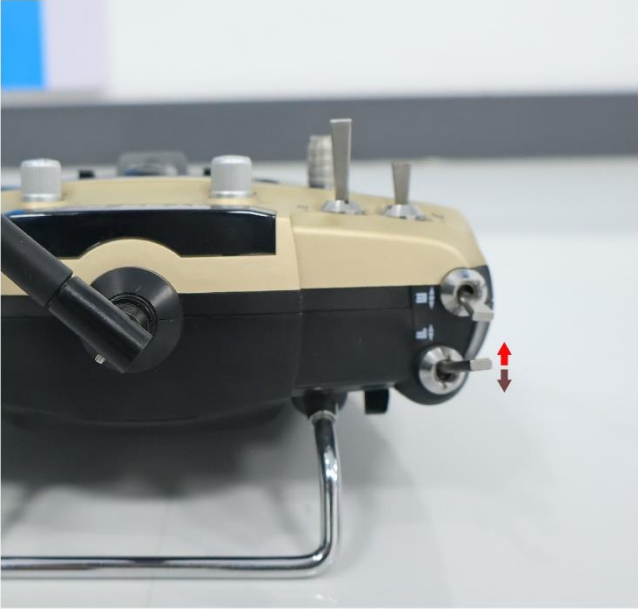
Control the lifting of the side brush





3. **Main Brush Push Rod Control**, 'F' lever Buttoned to 1, 'C' lever Buttoned to 1, the right joystick controls the vertical direction of the trash can gripper arm to raise or lower the push rod;

Control the trash can to be armed up and down



4. Main Brush Push Rod Control,
5. 'F' lever Buttoned to 1, 'D' lever Buttoned to 1, the right joystick controls the horizontal direction of the trash can gripper arm to extend or retract the push rod;



Sweeping Control

1. Fixed Gear Sweeping

'G' lever Buttoned to 2, 'E' lever Buttoned to 0 for first gear sweeping, '

'E' lever Buttoned to 1 for second gear sweeping,

'E' lever Buttoned to 2 for third gear sweeping

2. Independent Variable Speed Control

'G' Button set to 1,

push the right joystick forward: controls the speed of the side brush;

push the right joystick left: controls the speed of the main brush;

push the right joystick backward: controls the speed of the conveyor belt;

push the right joystick right: controls the fan;

push the left joystick left: activates dust shaking;



push the left joystick right: activates water spraying

3. Sweeping Motor Reversal

based on item 2, if the 'E' Button is set to 1, the sweeping motor can perform the reversal function

4. Sweeping Motor Fault Clearance

based on item 2, if the 'E' Button is set to 2, the sweeping motor can perform the fault clearance function

Remote Control Operation of the

In manual mode, you can use remote control to be manual control sweeper for temporary relocation, map recording, and track logging, etc.

The method is as follows: continuously 'hook' the H lever, then push the forward stick (left) back and forth to control the sweeper's forward and backward movement.

The greater the extent of the push, the faster speed, so you should gently push. Do not forcefully push the stick all the way to avoid accidents.

Similarly, by pushing the direction stick (right) left and right, you can control the sweeper's left and right turns. When you need to stop the sweeper, gently release the forward stick (direction stick) on the remote control, and the will come to a smooth stop.

Remote Control Battery Charging Instructions

- Remove the battery that needs charging. The red wire of the battery charging cable represents the '+' pole, and the black represents the '-' pole. Similarly, the red wire of the battery power cable represents the '+' pole, and the black represents the '-' pole, as shown in the following picture.
- When charging for the battery, connect the battery to the charger's charging port (the battery charging cable must correspond to the positive and negative poles of the charger's charging port) as shown in



the following picture.

- When the battery is fully charged, the charger will emit a 'beep beep beep' sound.
- Remove the fully charged battery and install it in the remote control (the battery power cable must correspond to the positive and negative poles of the remote control's power port) as shown in the following picture.



APP Control for sweeper



First, tap the Bluetooth remote control button in the APP, then after the operation interface appears, click the remote control Button to start operating. Below is the logic for the interface operations:

1. Tap the Bluetooth off button to turn on Bluetooth (when Bluetooth is shown as off, the remote control on both sides cannot be operated)
2. The middle part is for control mode, dust vibration, side brush and main brush buttons, and the opening



size of the front baffle. Button to control the speed, display the current sweeper speed, and the brake button. Pressing the brake button will immediately stop the sweeper.

Operation APP to control sweeper

1. Tap the remote control icon to call out the remote control function
2. Tap the Bluetooth off button to turn on Bluetooth (when Bluetooth is shown as off, the remote control on both sides cannot be operated)
3. The middle part is for control mode, dust shaking, side brush and main brush buttons, and the opening size of the front baffle. Button to control the speed, display the current sweeper speed, and the brake button. Pressing the brake button will immediately stop the sweeper.



Charging

Charging Indicator Light Instructions



A red light flashing once per second indicates constant current charging;

A green light flashing once per second indicates constant voltage charging;

The power indicator light on (steady green) indicates that the device is fully charged;

A fault light on constantly (steady red) indicates a malfunction of the charger or the battery;

Charging Precautions

1. Before charging, please ensure that the **power supply line** can provide at least **2000W** of power exclusively for the cleaning sweeper.
2. Charge the battery to full every **half a month** until overvoltage protection is activated, at which point the charger will automatically stop operating.

Charger Introduction

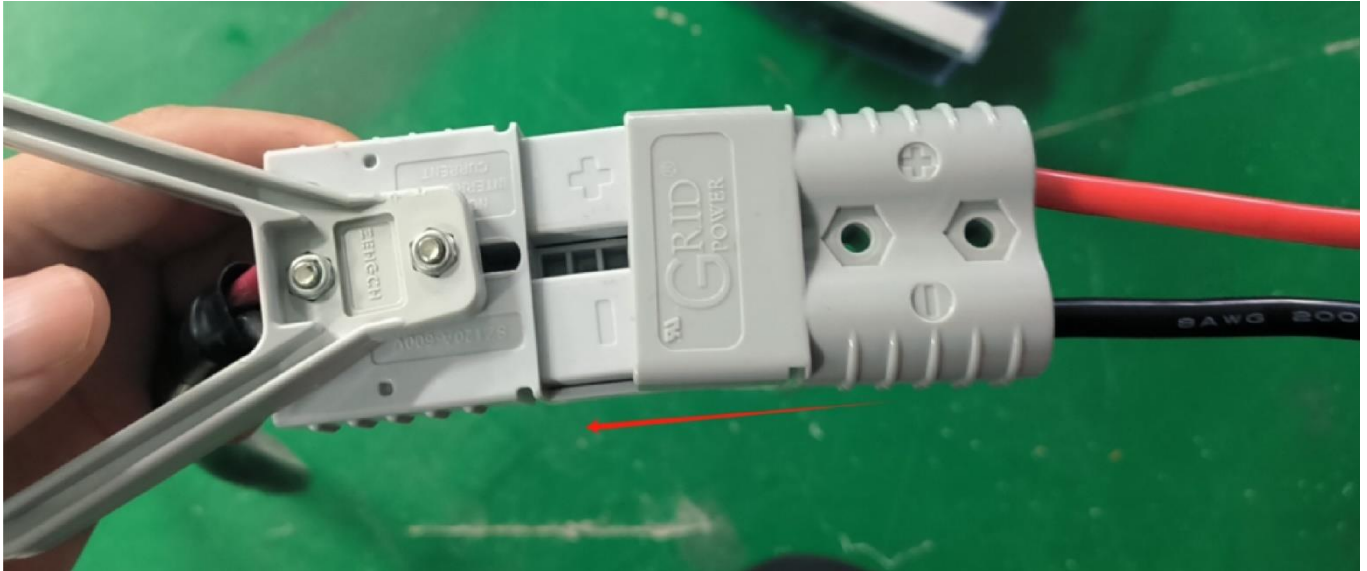
1. Charging Indicator Light Instructions
2. Charger Button Instructions

Note: The charger's output current is 30A. Be sure to turn off the charger before plugging or unplugging to avoid sparking that could cause personal injury or damage to the .



Manual Charging Process

1. Connect the charger connector to the aviation plug adapter, (red wire to positive, black wire to negative)



2. Connect the charger's aviation plug to the control box's aviation socket at the rear of the ;



3. Connect the charger's 16A plug to a 16A socket (or use an adapter to connect to a standard socket);



4. Power on the charger, after about 2~5 seconds, the charger's 'charging light' will flash green, the cooling fan will start running, indicating normal charging.
5. After charging is complete, first turn off the power to the charger before unplugging the power cord.



Maintenance Suggestions



Operators should maintain the sweeper before and after each use, carry out periodic inspections and necessary maintenance, and regularly replace consumables to ensure the sweeper performs at its best and to maximize its service life.

- Before maintenance, the power must be turned off and the power plug disconnected to prevent accidental electric shock or damage to components.
- The sweeper should be placed in a dry and ventilated area to avoid the impact of a humid environment on electronic components, which could shorten their lifespan.
- If the storage environment is extremely cold, please ensure that there is no standing water in the entire water path.

Maintenance Matters

- Unauthorized disassembly of this sweeper, such as panels, internal control boxes, etc., is strictly prohibited. Once discovered, the user will not be able to enjoy the established warranty policy.
- If the sweeper is working abnormally and cannot be resolved through routine troubleshooting, please contact the dealer or JT-Innovation technical support promptly for warranty matters.

Routine Maintenance

Daily Maintenance

- Empty the trash from the bin to prevent the accumulation and odor of garbage.
- Clean the filter in the dustbin.
- If there are water droplets on the sensor, please use a tissue or a softer cloth to gently absorb them, avoiding direct wiping with hands, which may scratch the surface of the sensor.



- Please check the battery level after the device has finished its operation, and recharge it in time if necessary.

Weekly Maintenance

- Check the main brush and side brushes weekly, and replace the main brush or side brushes if necessary.
- Inspect the filter in the dustbin and replace it in a timely manner.
- Check all springs, screws, and sheet metal components for looseness, deformation, or rust.
- Inspect the sensors for any scratches.
- Check if the main brush's height from the ground is within a reasonable range.

Consumables

The main consumables for Sweeper YZ include filters, rolling brushes, side brushes, belts, and baffles. The replacement cycle varies depending on the usage scenario and the type of flooring material. If the frequency of use is unusually high or low in actual application scenarios, users can appropriately shorten or extend the replacement cycle of consumables. Please adjust the timing based on the observed cleaning performance of the .

Battery Maintenance

Note: Do not disassemble or replace the battery on your own to avoid unnecessary damage.

- Keep the battery away from heat sources, high voltage areas, and avoid prolonged exposure to sunlight.
- Do not throw the battery into water or fire.
- Do not short-circuit the battery terminals with metal.
- Avoid excessive physical vibration and impact to the battery; do not hit, drop, or step on the battery.
- Disassembling or assembling batteries without manufacturer's permission and guidance is strictly



prohibited.

- Do not mix batteries from different manufacturers, types, or models.
- Please do not use or store in high temperature environments ($> 45^{\circ}$), as it may cause the battery to overheat,
- Catch fire, or reduce its lifespan.
- When the battery is dead, please charge it immediately. For long-term storage, fully charge it once a month.
- Please use the matching or recommended professional lithium battery charger.
- If the battery emits an unusual odor, changes color, makes noise, leaks, or is severely deformed, please stop using it.



Troubleshooting



Is the 's mapping unclear?

Possible reasons:

- The sweeper is moving too fast, resulting in poor mapping quality.
- Sensors are covered with dust or obstructed by obstacles.
- The environment is relatively complex, with high-transparency materials such as glass walls.

Corresponding solutions:

- Please control the sweeper to operate at a slower speed and map the area.
- Use a lint-free cloth to clean the outside of the laser sensor, and check for any foreign objects obstructing the sensor area; if any, please remove them promptly.
- When mapping, if you find high-transparency materials in the surroundings, please draw a virtual wall in time to control the map boundaries.

The main brush does not rotate?

Possible reasons:

- The main brush button on the remote control is in the off position, preventing the start of the cleaning work.
- The main brush is entangled with linear trash, causing it to be stuck and unable to rotate.

Corresponding solutions:

- Press the main brush button on the remote control to turn it on, and observe whether the main brush is lowered close to the ground.
- Please remove the main brush for cleaning, and reinstall it back into the sweeper after cleaning is complete.



The side brush does not rotate?

Possible reasons:

- The side brush button on the control panel is in the off position, preventing the start of the cleaning work.
- The fuse is blown.

Corresponding solutions:

- Press the main brush button on the remote control to turn it on, and observe whether the main brush is lowered close to the ground.
- Replace the side brush fuse.

The sweeper does not vacuum?

Possible reasons:

- The suction button on the control panel is in the off position, preventing vacuuming.
- Poor connection of the vacuum tube or blockage caused by the intake of unidentified objects.

Corresponding solutions:

- Press the dust-shaking button on the remote control to turn it on, and observe whether the suction function is working properly.
- Check if there is any blockage in the roller brush assembly, and if so, please adjust or remove it in time.

Sweeper initialization failed?

Possible reasons:

- Selecting the wrong map not near the landmark point with a crowd watching closely



Corresponding solutions:

- Select the correct map and push it to the landmark point, prohibiting close observation by people

The sweeper does not move?

Possible reasons are as follows:

- The sweeper is out of power, unable to start, and unable to move.
- The sweeper is not turned on, unable to move.
- The mode is set to automatic.
- The red emergency stop button on the sweeper has been pressed, causing the cleaning sweeper to emergency brake and unable to move.

Corresponding solutions:

- Please full charge the sweeper, and control the sweeper to move after the battery is fully charged.
- Please use the release shaft to unlock the sweeper's axis, then try to control the movement.
- Manual mode needs to be buttoned on manually.
- Please rotate the red emergency stop button clockwise to restore the movement function of the sweeper.

The sweeper cannot charge?

Possible reasons:

- The power socket is disconnected, no power supply provided.
- The charger is damaged and cannot charge.
- The battery is damaged and cannot be charged properly.



Corresponding solutions:

- Please ensure the power socket is live; you can connect the charger to another socket to verify.
- Please check if the charger's indicator light is solid red, which indicates normal charging. If it is off or blinking, it means the charger is malfunctioning. Please contact JT-Innovation for technical support.
- If the charger appears to be functioning normally, but the battery percentage does not increase as the charging time extends, it indicates that the battery is damaged or malfunctioning. Please contact JT-Innovation for technical support.



After-sales Policy



Service Hours:

Monday to Sunday 9:00—17:00

After-sales Service Hotline:

0755-26656380

Scan the QR code below to contact JT-Innovation Customer Service for more information.



Warranty Content

- The product comes with a 1-year quality warranty period, starting from the date the product passes acceptance.
- During the warranty period, routine product maintenance and consultation services are provided free of charge.
- Free installation and debugging procedures, as well as upgrades to equivalent software, are provided.
- After reporting for repair, normal use will be restored within 48 hours provided that all parts are complete.

Warranty Scope

- Warranty covers quality issues that arise under normal usage conditions.
- The party requesting repairs must do so within the warranty period stipulated by the other party.



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- Damage caused by not following the instructions in the user manual is not covered by the warranty.
 - Failures or damages caused by installation, repair, alteration, or disassembly by unauthorized personnel are not covered by the warranty.
 - Issues such as inadequate cleaning due to the end of material life, or not replacing with the standard materials specified by the party, are not covered by the warranty.

Emergency Response Measures

- 7 days * 24 hours real-time system alerts.
- Provide rapid response after-sales service within 24 hours.
- Ensure the product returns to normal use within 48 hours.

JT- Innovation (Guangdong) Intelligent Technology Co., Ltd.

Production base:

First Floor, Building F, Nanhai New Economy Industry Center, Guicheng Street, Nanhai District, Foshan City

R&D Center:

A401, Comprehensive Building, Industrialization Base, Virtual University Park, Nanshan District, Shenzhen