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Zhongshan Baijia Dagu Electronic Technology Co.,Ltd

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# **BJDG-XD101**

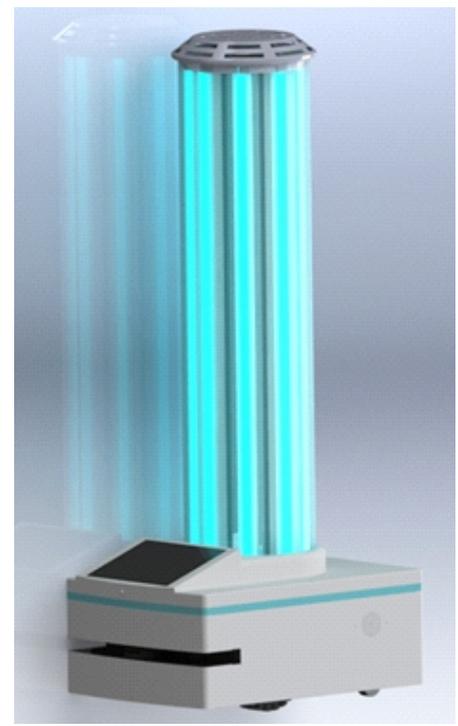
# **STERILIZATION ROBOT**

# **INSTRUCTIONS**

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# Product introduction



Disinfection and sterilization robot is a general-purpose wheeled chassis combined with ultraviolet sterilization lamp, It is suitable for shopping malls, families, schools, office areas and other places where sterilization can be blocked on flat ground; the robot is equipped with laser radar, which can realize omni-directional scanning and ranging detection of the surrounding environment, carry out planned disinfection and sterilization according to the obtained contour map, and avoid adverse effects caused by close tracking contact of human body. The robot is driven by high density lithium battery, which is maintenance free and has a long cycle.

In terms of killing performance, the vehicle body is equipped with 8 ultraviolet lamps to achieve 360 degree all-round coverage and killing, with accumulated light intensity of 936uv / cm2 and coverage radius of no less than 6m, which has a good killing effect on environmental surface and air. The car body is equipped with a human body sensing module. In the process of operation, the ultraviolet light will turn off automatically after sensing the presence of human body, so as to avoid harm to human body.

## Technical parameter

### Body parameters

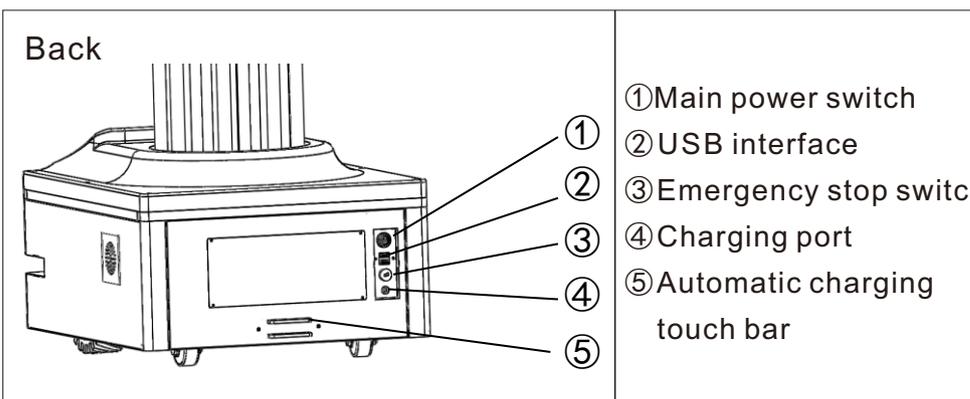
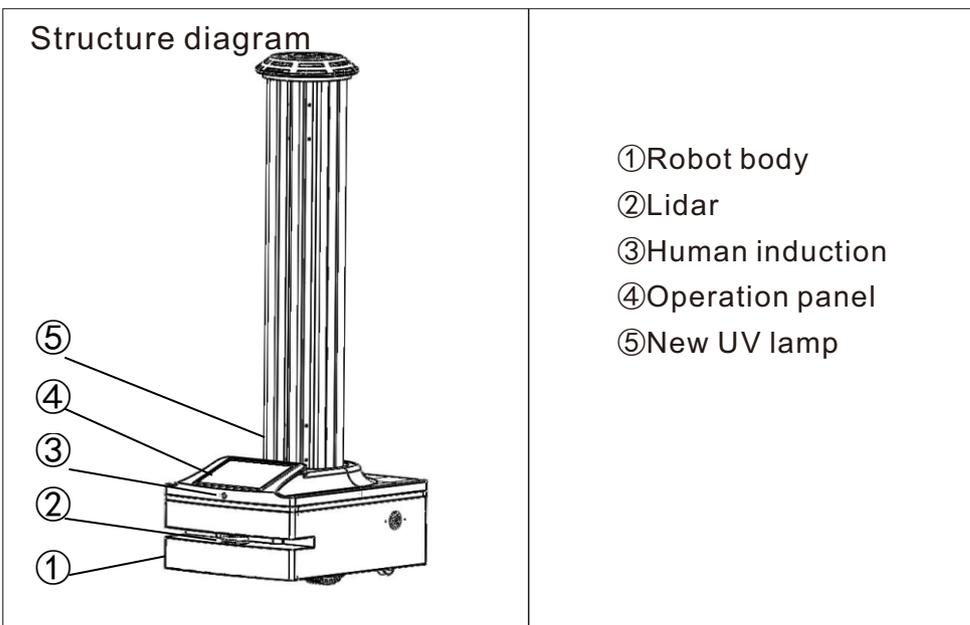
Size	Chassis size (mm)	635*486*1530
Weight	Including battery	45KG
Power Supply	Battery	Ternary lithium battery
	Battery capacity	24V/40Ah
	Charging time	4H
	service life	80% after 300 cycles
	Maximum charging voltage	29.4V
	Endurance (no load)	3-4H
Drive wheel	Size (wheel diameter * wheel width mm)	200*50
	Material Science	Rubber
	Power	150W
	Maximum speed	250r/min
	Maximum torque	30NM
Universal wheel	Material Science	Rubber
	Size (wheel diameter * wheel width mm)	50*25
	Radius of rotation(mm)	50
Performance	Single bearing	80KG
	Maximum load	50KG
	Maximum operating speed	0.7m/s
	Navigation accuracy	±50mm
Safety Protection	Direction	360° rotation
	Emergency stop button	Emergency stop
	Human induction	Thermal infrared body sensor
	Remote control function	Configure remote control module remote control

Navigation	Navigation mode	SLAM
	Path planning	Automatic planning / manual route planning
	Navigation sensor	Lidar (16m)
Signal Communication	wireless network	2.4G/4G WiFi
	Debugging port	Ethernet RJ45
	USB	USB2.0
	Wireless transmission	200M
Environmental Science	Ambient temperature	0°C~45°C
	Ambient humidity	Relative humidity 5-95% (House frosting)
	Operating environment	Indoor use only (no dust and corrosive gas)
	Protection level	IP20
	Antiskid coefficient of ground	≥0.5
Ground conditions	Ground requirements	Concrete level ground (without water, oil or dust)
	Vertical obstacle surmounting ability	10mm
	Ability to cross gullies	20mm
	Maximum climbing angle	5°

### Design parameters of charging pile

Charging post	Size (mm)	400*128*250
	input voltage	AC 110V~220V
	output voltage	29.4/7A
	Rated power	200W

## Product appearance diagram

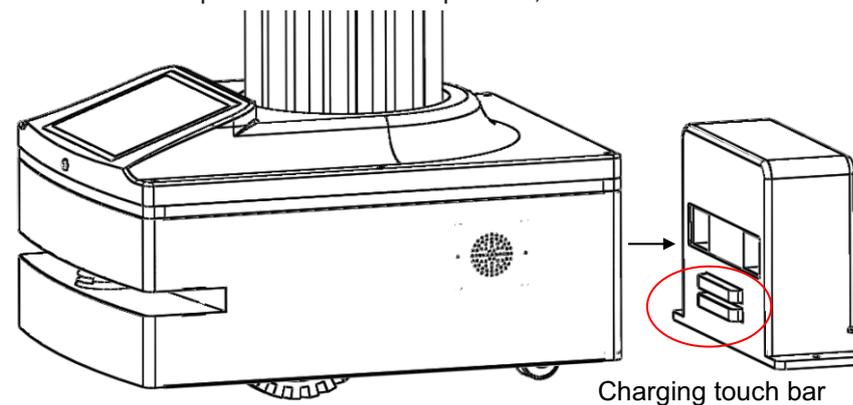


## Basic operation

1. Start up operation: turn on the "main power switch" to start the machine. The remote control can turn on the ultraviolet lamp, and start disinfection and sterilization according to the software operation instructions. (please be familiar with the product appearance configuration before starting.)

Note: charging instruction - put the charging pile in a proper position, plug in the plug, and the robot will recharge automatically.

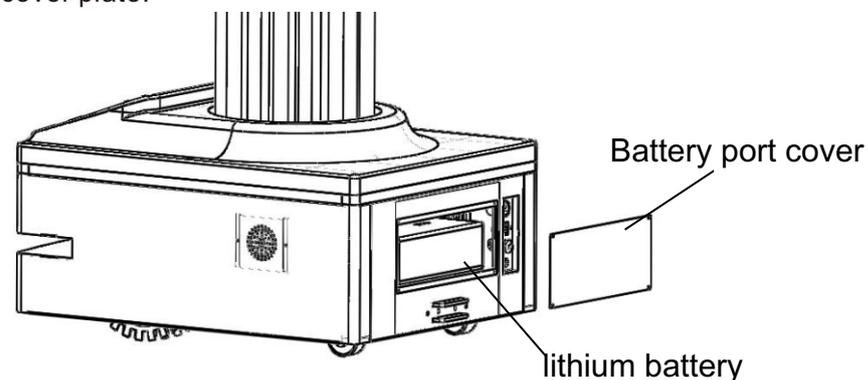
Description of human body induction - the sensor will automatically turn off the ultraviolet lamp when it senses a person;



## Battery replacement instructions

The following operations shall be carried out when the main power supply of the machine is turned off, and the machine body and the ultraviolet lamp stop working.

1. Loosen the four screws at the back of the fuselage and remove the battery port cover plate.

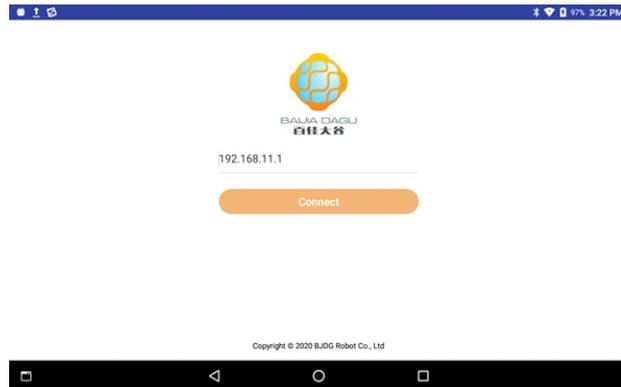


2. Find the cable connecting the battery, unplug the separation adapter, and then take the battery out of the body.  
3. Finally, insert the new battery into the original position, connect the adapter, lock the battery port cover plate and complete the replacement.

## Software operation instructions

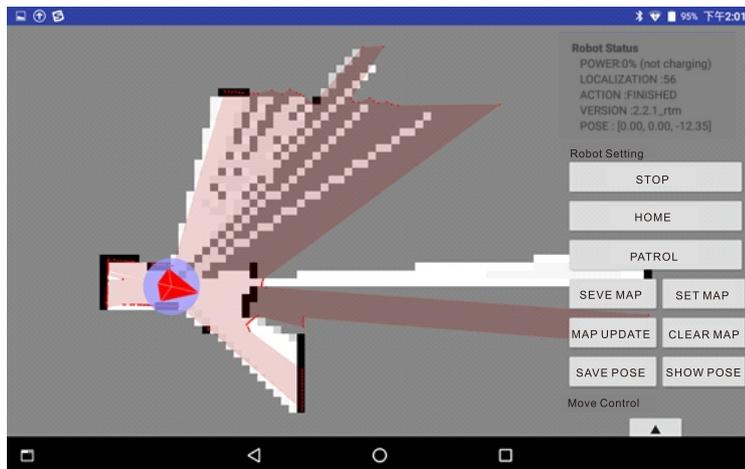
### 1. Connect

Open the "bjdg robot" app and enter the control program. The interface is as follows:



Generally, the default IP address does not need to be modified. Click "connect slamware" to enter the control interface. If the connection fails, a pop-up window will pop up. Please check whether the network is connected; Mobile app connection, search for WiFi name BJDGRobot\_XXXX, the password is bj12345678, you can enter the app after connecting WiFi successfully;

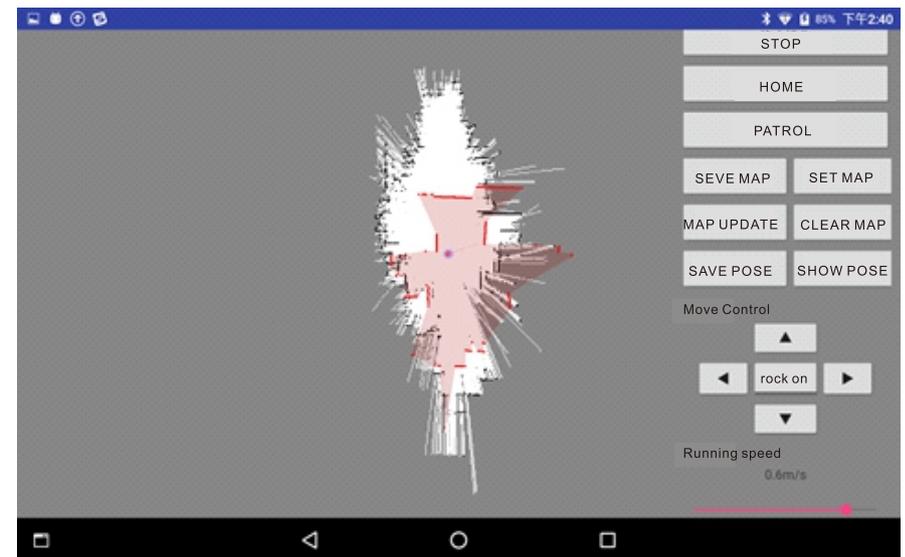
### 2. Operation



In the middle of the interface is a map, the left side shows the robot status, machine settings, motion control and running speed, etc;

PATROL - start patrolling along the preserved points;  
 HOME - back charging pile;  
 STOP - stop all current operations;  
 SEVE MAP - save map to local;  
 SET MAP - load locally saved map;  
 CLEAR MAP - clear the current map and saved points;  
 SAVE POSE- manually save the current position of the robot as a fixed point;  
 SHOW POSE - display the saved fixed point and route, and then click Hide;  
 MAP UPDATE - switch drawing status;

Motion control and adjustment speed:

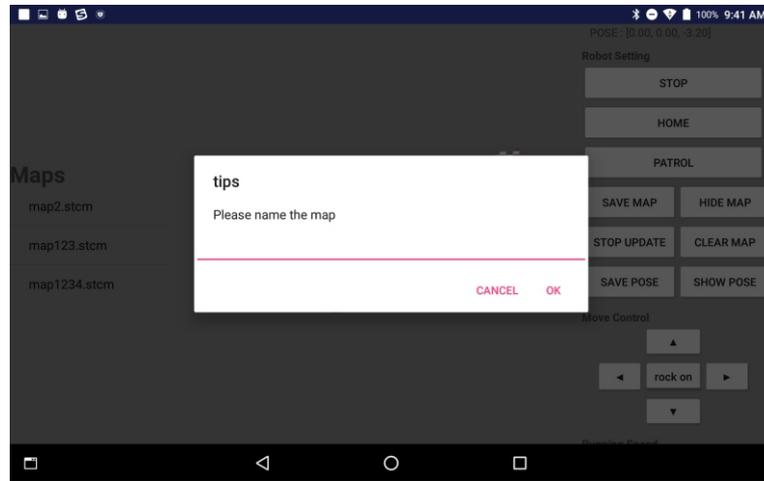


## 1. Scan map

The first step of robot operation is to scan the map. In the state of robot drawing, the robot can automatically scan the map of its environment by controlling its motion. There are two ways to control robot motion to scan the image:

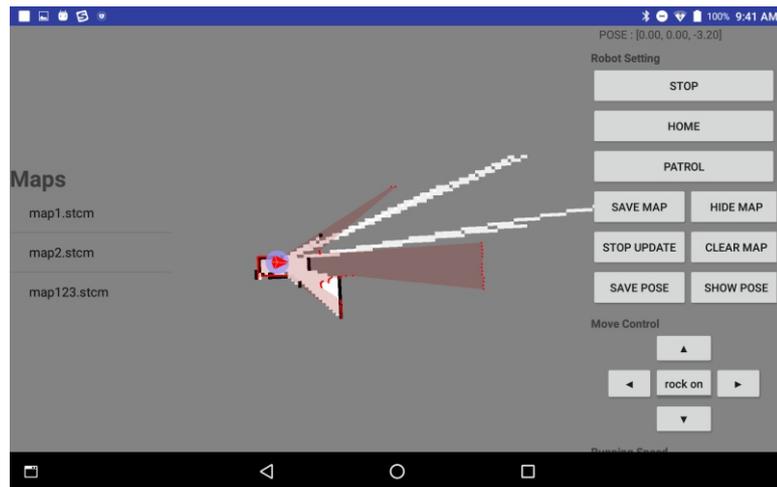
- ① Via left motion control
- ② By clicking on the map, the robot will go to the corresponding point on the map

Try to use the second way as much as possible, because the moving points will be recorded during the scanning process, and the patrol route will be generated automatically, which will be used later.



After the map is scanned, click "save map" to save the map. If you do not need to change the map, you will not need to scan the map every time you use it. Note: click "clear map" before rebuilding the map to clear the previous map data! The maximum number of maps can be saved is 5

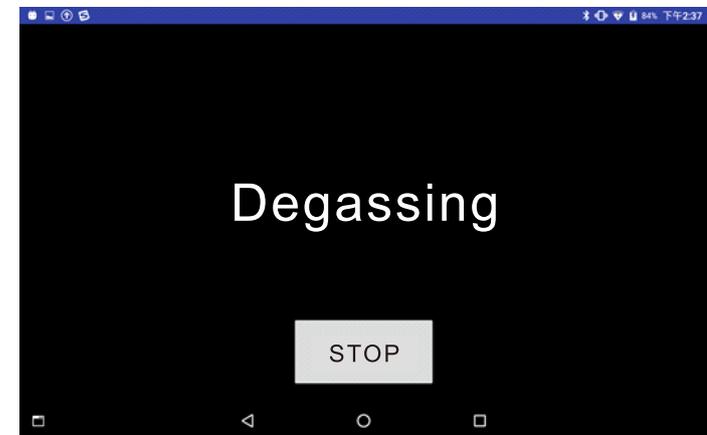
## 2. Load map



Click the "set map" button, the list of saved maps will be displayed on the left. Click the map to be loaded. If the pop-up window shows that the connection fails, click "reconnection" to refresh the loaded map.

## 3. Designated patrol

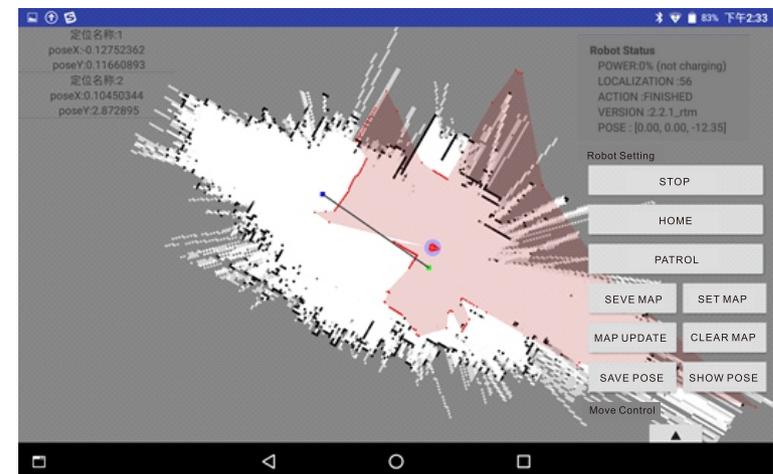
By default, under free navigation, first click "set map", load the saved map, make sure that the saved map is the current environment scanning map, then click to start patrolling, and the robot will patrol and disinfect according to the scanning route; Click "terminate exit" to stop patrolling;



Note: make sure the robot starts at a fixed charging point every time!

## 4. Display fixed point (patrol path)

Click the "display fixed point" button to display the saved fixed point and path, as shown below:

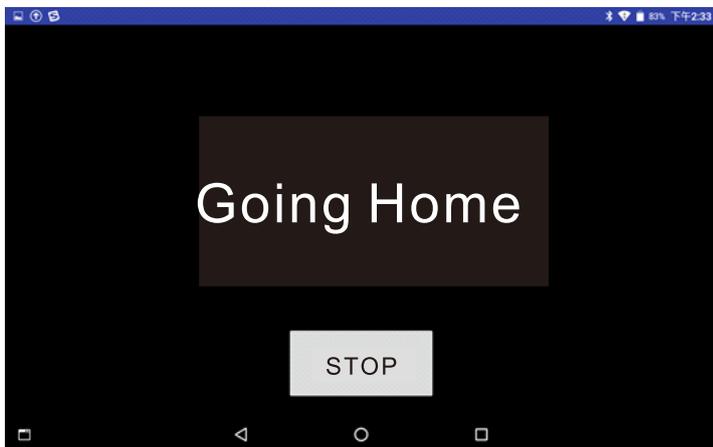


The left side bar displays the saved points. Long press to delete the corresponding points. The path is displayed on the map. Green is the starting point and blue is the point on the path;

Click the "hide point" button again to hide the point and path.

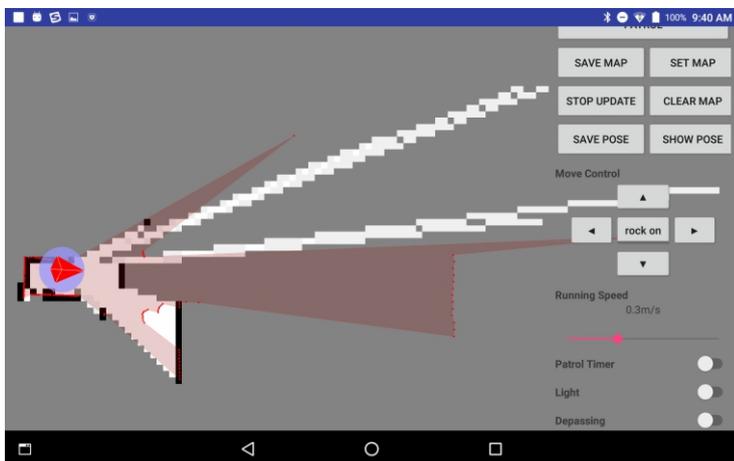
## 5. Back charging

When the power is less than 25%, it will automatically trigger the back charging, or manually click "back charging" to control the robot back charging;



Click "terminate exit" to terminate the pile return.

## 6. Other operations



### ① Regular disinfection

Open the timing disinfection switch button, select the timing time, 1 ~ 4H optional, click Start patrol to start regular disinfection.

### ② Ultraviolet lamp

The UV lamp control switch can control the lamp.

### ③ Sprayer

The sprayer control switch can control the spray.

## Pay attention



When using, people, animals and plants should leave the site and avoid direct contact with eyes and skin

During the operation of this product, if there are (bonsai, mahogany, antique calligraphy and painting, silk and other valuables) in the disinfection space, please remove the disinfection site as far as possible or protect it from the light, so as to avoid the damage of articles caused by direct ultraviolet radiation or ozone. After disinfection, it is recommended to ventilate for 30 minutes, and unplug the power plug at the same time.

