



# IFBOT X3

*The world's first fully autonomous and portable solar panel cleaning robot*



## User Manual

Thank you for choosing IFBOT X3  
*Please carefully read this manual before using*

If you encounter any difficult while usage, don't hesitate to contact us through:



- Email: [tech\\_support@ifbot.com](mailto:tech_support@ifbot.com).
- WhatsApp: +86 18611218955 (or scan the QR code on the left)
- Phone (Global) : 86-512-66838407
- Phone (from China): 400-8822-400
- Address: 5th Floor, Kezheng Building, South Tiancheng Road, Xiangcheng District, Suzhou, China

You can find instruction videos in our official website or YouTube channel:

- Official Website: [www.ifbot.com](http://www.ifbot.com)
- YouTube: [www.youtube.com/@IFBOT](http://www.youtube.com/@IFBOT)

Note: To improve user experience, we will continuously upgrade or modify our products, as well as related printing materials, including but not limited to product configuration, colors, packaging, app interface, catalog and user manuals. Therefore, the information provided in this document is subject to future changes, and the actual product shall prevail.

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# Safety Precautions

- When using this product, please follow consistent safety precautions, including but not limited to the following. Please read carefully:
  1. Before using this product, carefully read all the contents of this manual and operate the robot according to the steps outlined in this manual.
  2. Any operation that deviates from the instructions in this manual may result in serious personal injury or damage to the product itself.
  3. Do not allow children or individuals lacking independent behavior or relevant experience to use this product alone to avoid danger.
  4. This product is a portable photovoltaic cleaning robot and should not be used outside of photovoltaic panel settings or in hazardous locations or industrial production sites.
  5. This product uses a 10.9V lithium-ion dedicated rechargeable battery. Do not use connecting devices with other power levels.
  6. If any abnormalities are found in the battery, do not use the product and promptly contact the dealer or our company at [tech\\_support@ifbot.com](mailto:tech_support@ifbot.com).
  7. It is prohibited to touch the power plug with wet hands as this may cause electric shock. When inserting or removing the power cord, do not pull, twist, or bend the cord forcefully.
  8. If the power cord, plug, or charging base is damaged, or if the circuit board is exposed, be sure to disconnect the power and stop using it immediately. Please contact the dealer or our company at [tech\\_support@ifbot.com](mailto:tech_support@ifbot.com).
  9. When operating the portable photovoltaic cleaning robot, place the robot on the surface of the solar panel and ensure it is securely attached before proceeding with cleaning.
  10. Do not place the cleaning robot too close to a fire source or other high-temperature areas.
  11. Do not use or store the cleaning robot in extreme environmental conditions such as extreme temperatures (below  $-10^{\circ}\text{C}$  or above  $50^{\circ}\text{C}$ ). Store the machine in a dry and cool place.
  12. Do not place your hands on the brush during operation of the cleaning robot, as this may cause personal injury.
  13. If the cleaning robot emits abnormal sounds, odors, or smoke during operation, immediately turn it off and remove the battery.
  14. Do not pour or splash water or other liquids into the cleaning robot to avoid short-circuiting and damaging the machine. Do not touch the charging base, plug, or power cord with wet hands.

## Safety Precautions

15. Do not use the robot on photovoltaic panels during rainy days or when they are wet.
16. Do not immerse this product in water or other liquids to reduce the risk of electric shock; do not place this product in locations where it may fall.
17. Battery charging should not be done in excessively cold or hot environments, as this may affect the battery's lifespan.
18. After the robot finishes cleaning, promptly remove the lithium battery and place it in a dedicated protective bag. When removing the lithium battery pack, the machine must be powered off and placed in a safe location. Do not dispose of lithium batteries in fire, water, or soil. Waste battery packs should be safely recycled.
19. When cleaning this product, stop charging and remove the lithium battery pack, then wipe its surface with a dry cloth.
20. Regularly clean the dust from the brush, either using a blow dryer or a dry cloth. If the brush does not rotate during use, immediately check for any foreign objects entangled in the brush; if there are no foreign objects, contact after-sales service personnel for repair or replacement.
21. If any parts of the product are damaged, notify professional personnel for repair. Improper repairs may lead to accidents.
22. Do not disassemble the machine without authorization, as this may cause danger. If damaged, repair or replacement should be carried out at the designated repair center of our company.

## Product Features

- **Path Planning** The IFBOT cleaning robot features a unique rotating cleaning mode. Equipped with smart sensors, the robot can accurately detect the array edge during the cleaning process, determine the size of the cleaning area, avoid aluminum frame edges, autonomously calculate the cleaning route, and provide comprehensive coverage without omission.
- **Waterless Cleaning** The IFBOT cleaning robot adopts a brand-new patented technology, redefining photovoltaic cleaning robots. The nano-fiber roller brush used by the robot can roll up and gather dust particles adhering to the surface of the photovoltaic panel, and the centrifugal force of the turbocharged centrifugal fan sucks the dust into the dustbin.
- **Intelligent Operation** The IFBOT cleaning robot firmly attaches itself to the surface of the photovoltaic panel through a removable suction cup. Displaced auxiliary suction cups enable stable free movement on smooth slopes, adapting to various complex operating environments. The effective working angle range is 0-45°.

# Product Parts

## Main body and accessories



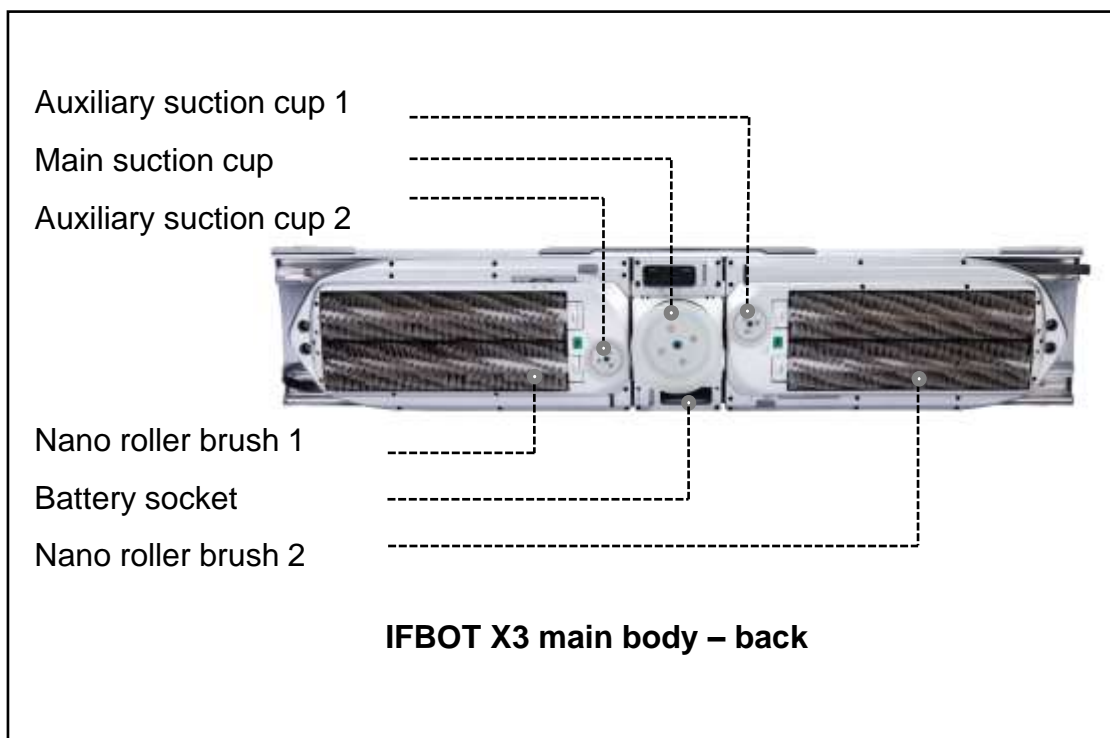
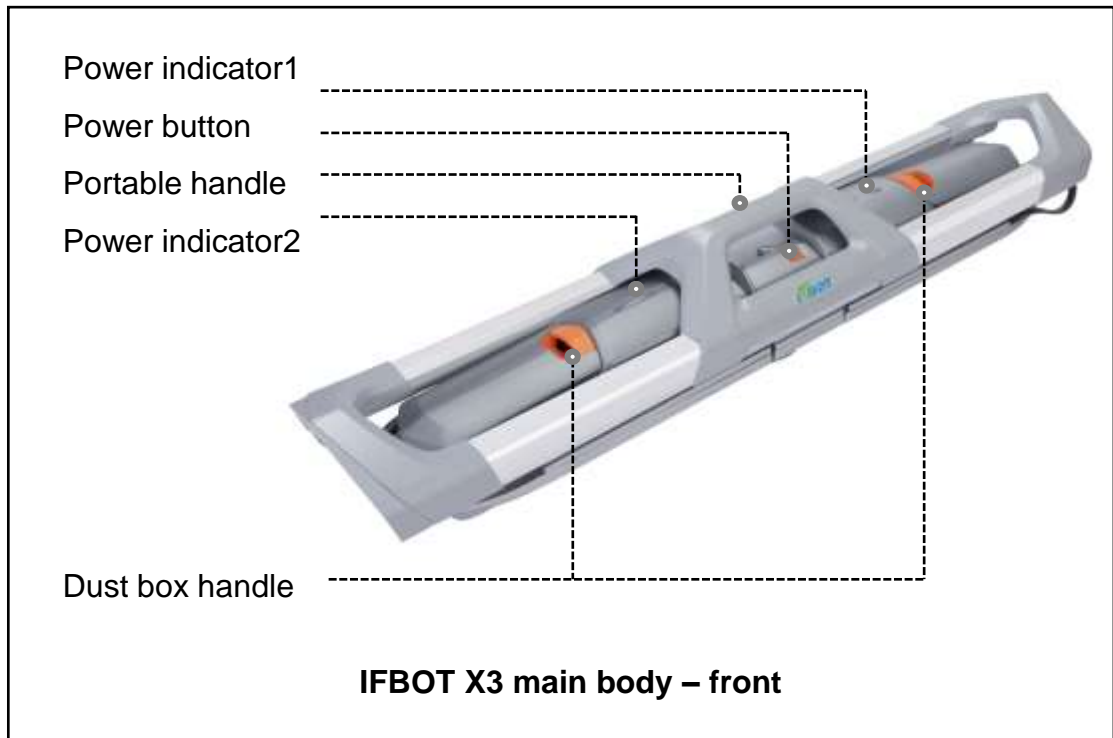
IFBOT X3 main body



•Each standard package includes: 1\*IFBOT X3 main body, 2\*batteries, 1\*charging stand, 1\*power cod and 1\*storage bag

# Product Parts

## Robot Structure





# Product Operation

## Robot Initialization & Termination



### ① **Battery Insertion:**

Flip the robot to expose the bottom and insert the two batteries into the battery slots on both sides of the robot. Ensure that the batteries are securely in place and will not slip out.



### ② **Robot Placement:**

Place the robot vertically in the center of the photovoltaic panel, following the arrow indicators, ensuring that the robot's built-in suction cups can adhere to the panel.



### ③ **Robot Initialization:**

Press the power button for a few seconds to start the robot. The robot then will take care of the cleaning process itself.



### ④ **Robot Termination**

Press the power button for a few seconds and wait for the robot stop. The cleaning process is complete.

\* For video instructions, you can check out:

<https://www.ifbot.com/product> or [https://www.youtube.com/watch?v=ySQ0\\_MhP02Q](https://www.youtube.com/watch?v=ySQ0_MhP02Q)

# Product Operation

## Battery Charging and Replacement & Dustbin Cleaning



### ① Battery Replacement:

Turn off the robot and remove it from the photovoltaic panel. Press your fingers on both sides of the battery latch and simultaneously pull downwards.



### ② Dustbin Cleaning:

Remove the dustbin from the robot, pull out the bin cover, and empty the dust at an appropriate location. After cleaning, tightly fit the bin cover back onto the dustbin and reinstall it onto the robot. (Repeat the same process for both sides.)



### ③ Battery Recharging:

a. Place the charging stand on an unobstructed, flat, free of water, and non-flammable place. b. Connect the power cord to the charging standard, then plug the power cord plug into the power socket. c. Insert batteries into a charging stand slot for recharging: green light indicates full charge, red indicates charging in progress.

# Product Operation

## Control through APP

Although IFBOT X3 is fully autonomous, a dedicated APP for IFBOT X3 will give you more control over the robot if need it.

### ① Download the APP

- Android users can search for "Ifbot Tech" on the "Tencent App Store" or "Huawei AppGallery" to download the application. (Or scan the QR code on the right)
- Apple users can search for "Ifbot Tech" on the "App Store" to download the application. (Or scan the QR code on the right)



Android



iOS

### ② Connecting to the APP

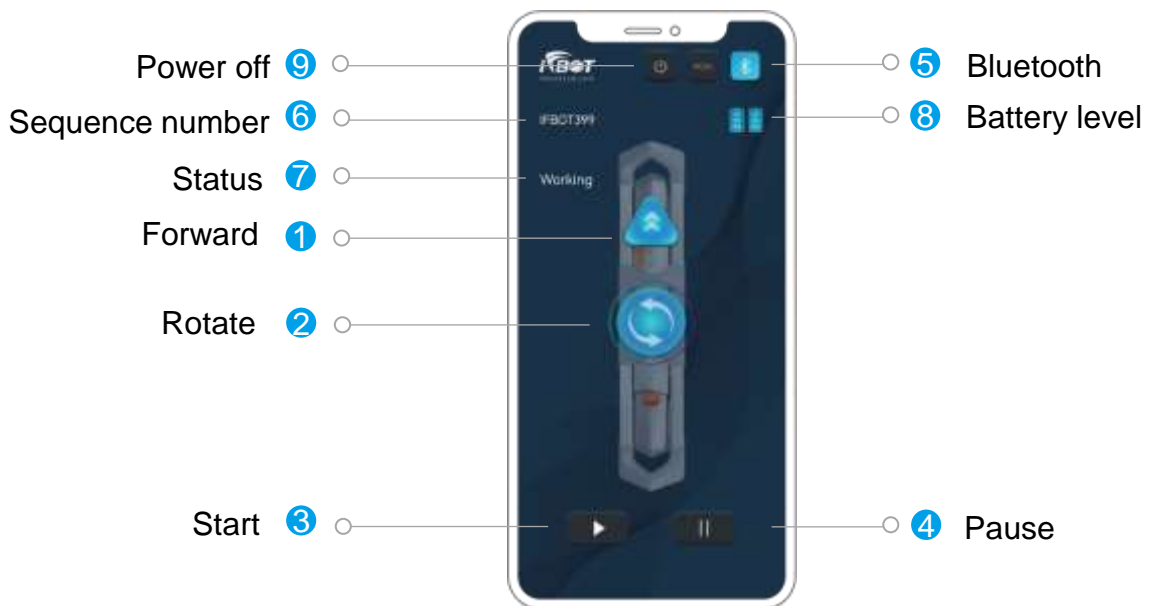


- After installing the application, open the app to see the interface as shown in the image above.
- Click the Bluetooth icon on the top right corner of the app to open the phone's Bluetooth settings and display the list of available devices to connect to.
- Select the robot number you would like to connect. Once successfully connected, the interface will appear as above.

# Product Operation

## Control through APP

### ③ User Interface and Key Functions



- ① **Forward:** Tap once and the robot will move forward. “Forward” is indicated by an arrow label on top of the robot.
- ② **Rotate:** The robot will continue to rotate while pressing the rotate button; When released, the robot stops rotating
- ③ **Start:** Tap once and the robot will start cleaning
- ④ **Pause:** Tap once to stop the current action
- ⑤ **Bluetooth:** Tap once to get a list of machines available to connect
- ⑥ **Sequence Number:** Is an identify number to distinguish one of your IFBOT X3 from the other

- ⑦ **Status:** Displays the current status of the chosen robot
- ⑧ **Battery level:** Displays the battery level of the two batteries separately. Please replace the batteries when battery level is low. (We recommend a replacement when both batteries have no more than 1 bar left)
- ⑨ **Power off:** Tap “Power off” command, and the robot will be tuned off after confirmation.

**⚠** Please be mindful that on a panel with greater than 20° tilt angle, the robot may roll and fall down after a forced shut down!

**⚠ Please press the “Pause” button to pause the robot before instructing any of the above command!**

# Product Operation

## Control through APP

### ④ Error Interface and Handling



- If any abnormalities occur while the robot is running, you can connect to the app and see the interface on the right
- You can then press button to enter “Single Module Movement” interface, which allows you to control individual module of the robot

There are three modules within “Single Module Movement Interface”.

- **Front :** The front module controls the “head” of the robot. You can press and hold the 'Forward' button to extend the head, or 'Backward' button to retract the head inward.
- **Middle:** The middle module controls the middle part of the robot, including main suction. You can press and hold the 'Forward' button to move main suction forward, or the 'Backward' button to move main suction backward.
- **Back:** The back module controls the “tail” of the robot, which is the opposite end of the head. You can press and hold the 'Forward' button to extend tail outward, or 'Backward' button to retract tail inward.



# Product Maintenance

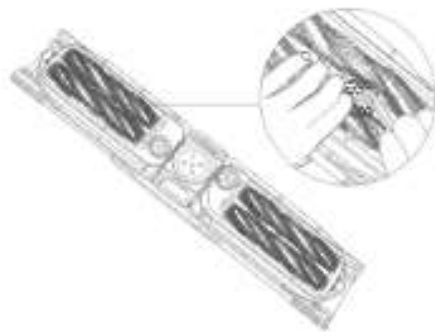
To ensure the cleaning efficiency of the robot, regular maintenance is necessary.

## 1. Cleaning the Brushes and Filters:

- After the cleaning operation is completed, please promptly clean the dust on the roller brushes and filters.
- If there is a significant amount of dust on the photovoltaic panel, it is recommended to clean it once every 4 hours when replacing the battery.



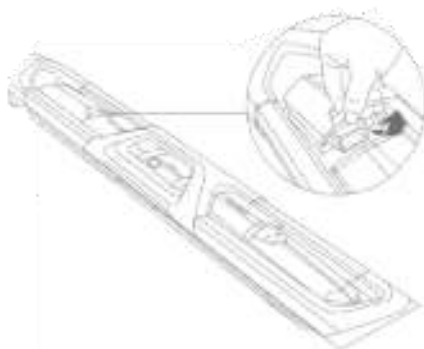
Use a blow dryer to blow away the dust on the surface of the brushes



Use a brush to clean the filter mesh

## 2. Cleaning the Dustbin:

- After the cleaning operation is completed, please promptly clean the dustbin.
- If there is a significant amount of dust on the photovoltaic panel, it is recommended to clean it once every 4 hours when replacing the battery.



Remove the dustbin from the robot

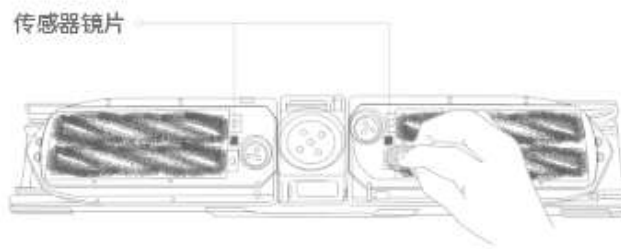


Pull out the dustbin and empty out the dust

# Product Maintenance

## 3. Cleaning the Sensor Lens:

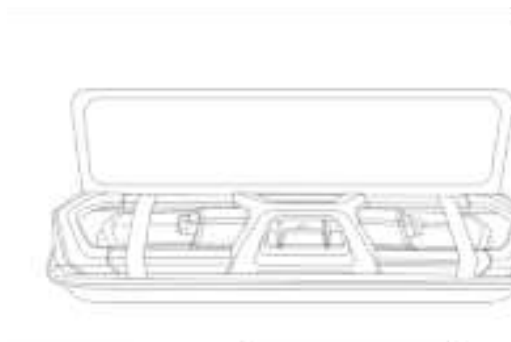
- After the cleaning operation is completed, please promptly wipe the sensor lens.
- If there is a significant amount of dust on the photovoltaic panel, it is recommended to wipe it once every 4 hours when replacing the battery.



Wipe the bottom sensor lenses (one on each side) with a dry cloth or dry paper towel

## 4. Storing the Robot and Battery:

- After the cleaning operation is completed, please promptly remove the battery.
- Place the robot and battery separately into their dedicated protective storage cases.



Place the robot into the dedicated shockproof storage case



Place the battery into the dedicated storage case

## Battery Disposal

If you need to dispose of the battery inside the machine, do not discard it with household waste. Please take it to the nearest waste battery recycling station or the Yibote after-sales service center for proper disposal.

Leakage from the battery may cause bodily harm! If leakage occurs, do not touch it with your eyes or skin. If you feel unwell, seek medical attention immediately.



# Technical Specifications

Product Category	Portable and Autonomous Solar Panel Cleaning Robot
Model	IFBOT X3
Dimensions	1020mm*188mm*180mm
Net Weight	6.2kg
Working Adaptation Angle	0-45°
Battery Life	4 hours
Cleaning Rate	30 square meters per hour
Dustbin Capacity	270ml each * 2
Battery Capacity	7000mAh (Lithium Battery)

# Troubleshooting

No.	Situation	Potential Cause of Failure	Solution
1	After starting, the robot does not work or cannot work normally	<ol style="list-style-type: none"> <li>1. Battery is dead</li> <li>2. Battery power is too low</li> <li>3. Battery cannot be charged normally</li> </ol>	<ol style="list-style-type: none"> <li>1. Charge the battery fully or replace it with a fully charged one</li> <li>2. Check if the charging stand is damaged and unable to charge</li> <li>3. The batt</li> <li>3. Battery has reached the end of its service life, please contact customer service to purchase a replacement</li> </ol>
2	Brush does not rotate	<ol style="list-style-type: none"> <li>1. Brush is entangled with foreign objects</li> <li>2. Brush has reached the end of its service life</li> </ol>	<ol style="list-style-type: none"> <li>1. Check the brush and remove any foreign objects</li> <li>2. Contact customer service to purchase a replacement brush</li> </ol>
3	Dustbin leaks dust	<ol style="list-style-type: none"> <li>1. Too much dust inside the dustbin</li> <li>2. The dustbin is not installed properly</li> </ol>	<ol style="list-style-type: none"> <li>1. Empty the dust inside the dustbin</li> <li>2. Check and reinstall according to the operating instructions</li> </ol>
4	Suction cup does not adhere firmly	There is dust on the suction cup	Use a dry cloth to wipe off the dust on the suction cup
5	Abnormal noise during robot operation	<ol style="list-style-type: none"> <li>1. There are foreign objects inside the machine</li> <li>2. There are obstacles on the machine's path</li> </ol>	Please stop using immediately, remove foreign objects or obstacles; if there is still abnormal noise, please contact customer service.

# Warranty Card

## User Information (To be filled in by user)

User Name		Phone Number	
Mailing Address			
Product Model		Product Number	
Store of Purchase			
Purchase Date		Invoice Number	

## Repair Record

Repair Date			
Problem Description			
Handling Details			
Repair Center			
Repair Technician's Signature		Repair Center's Phone Number	

## Warranty Instructions

1. Please fill in this warranty card immediately upon purchasing our company's product;
2. Please keep the warranty card properly. Consumers do not need to send it back to the company;
3. When repairing, please bring the warranty card and valid invoice original.