

installation instruction



JETCOBOT

说明书/Manual



①使用前请仔细阅读本说明书
①Please read this manual carefully before use

②本公司保留说明书解释权
②Our company reserves the right of interpretation for this manual

③产品外观请以实物为准
③Product appearance, please prevail in kind

④阅后请妥善保留
④Please keep the manual properly after reading

中文官网网址: <https://www.yahboom.com/study/JETCOBOT> 提取码: omea 英文官网网址 <https://www.yahboom.net/study/JETCOBOT>

在产品使用过程中,如对以下说明有疑问的,请根据说明书首页的网址查阅最新的网页资料或者联系我们技术支持。
! Any questions about the instructions on manual, please enter the tutorial link on the homepage, check the latest information on our website or contact our technical support.

Packing List

	Robotic arm		Chassis box
	Adaptive gripper		Acrylic front cover
	OLED expansion board		Chassis box back plate
	Camera module		Robotic arm bottom plate
	Jetcobot USB adapter board		Suction cup
	Camera cable		Power adapter (12V)
	Elbow Type-c data cable		Accessory package
	Instruction manual		Screwdriver
	Gamepad + AAA battery		Map

	30x30mm Block*8 (Red / blue green / yellow)		
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Jetson Orin Nano board accessories (Optional)

	Jetson Orin Nano board		256GB SSD
	Network card antenna		Power adapter (19V)
	DP to HDMI adapter cable (1.5m)		

Jetson Orin NX board accessories (Optional)

	Jetson Orin NX board		256GB SSD
	Network card antenna		Power adapter (19V)
	DP to HDMI adapter cable (1.5m)		

Jetson Nano board accessories (Optional)

	Jetson Nano B01 board		USB disk
	Nano 4GB accessory package		4010 fan
	HDMI cable		M.2 network card + network card antenna
	Power adapter (5V)		

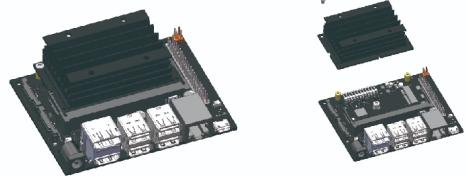
Assembly Steps

1. Install Jetson Nano

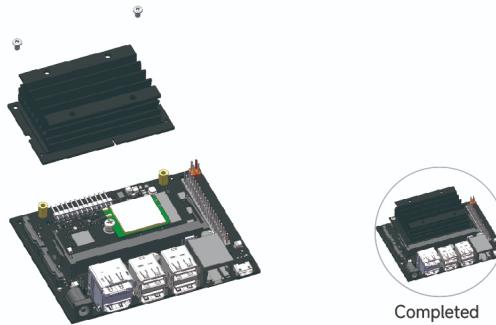
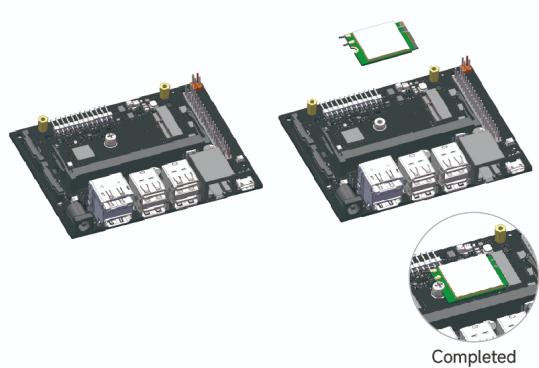
(If you use other main control board, skip this steps)

① Remove the core board

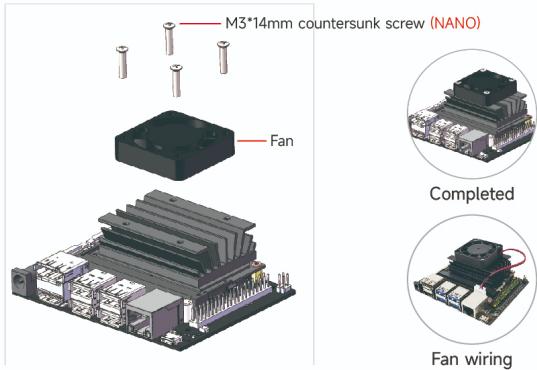
Note: When installing the core board, be careful that the clips on both sides are easily broken, please insert the core board at an angle.



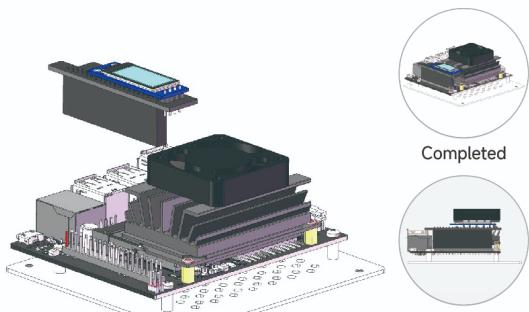
② Install network card



③Install fan

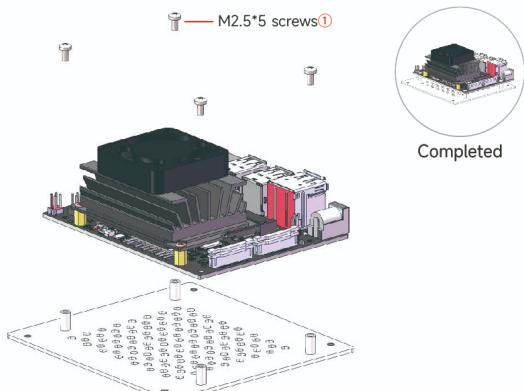


3. Install JETCOBOT-OLED expansion board



The pins of the OLED card need to be aligned with the 40-pin interface on the Jetson board. Do not insert them incorrectly.

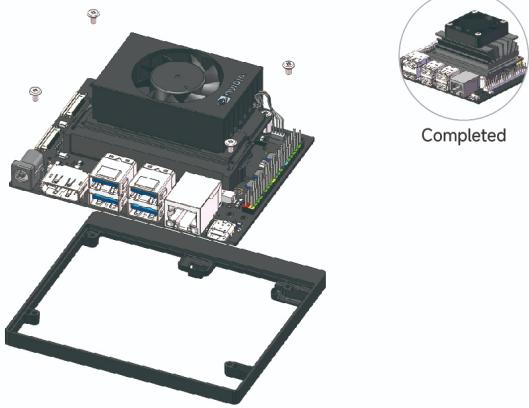
2. Install Jetson Nano on JETCOBOT



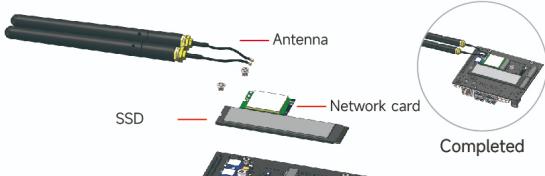
4. Jetson Orin Nano/Jetson Orin NX board

(If you use other main control board, skip this steps)

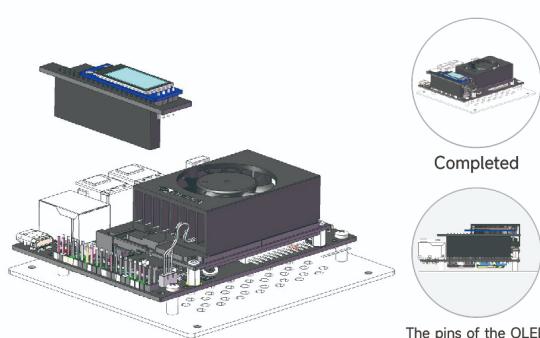
①Remove the main control board base



②Install network card, SSD, antenna

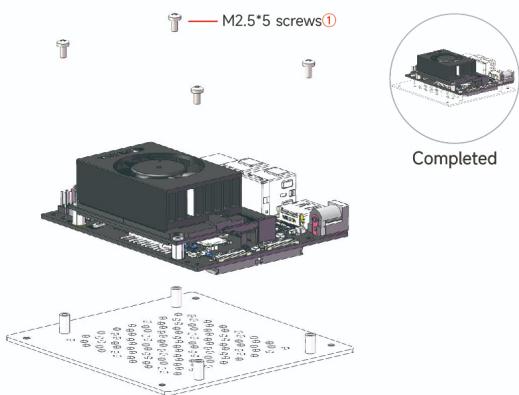


6 . Install JETCOBOT-OLED expansion board

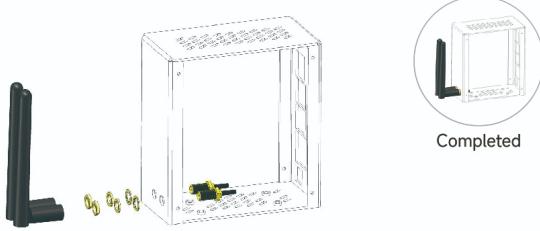


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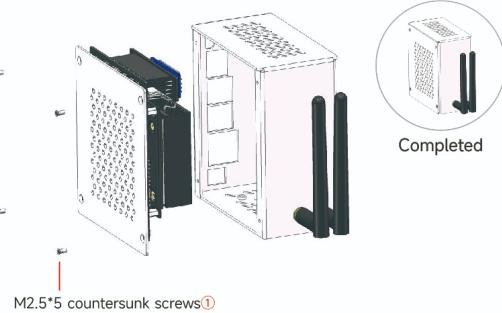
5. Install Jetson Orin Nano/Jetson Orin NX on JETCOBOT



7. Install antenna

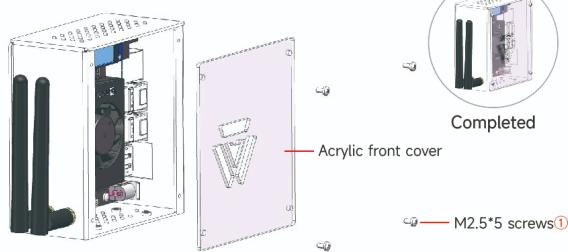


8. Install JETCOBOT rear cover

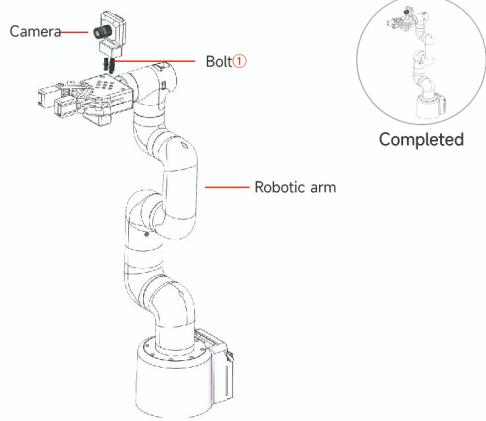


M2.5*5 countersunk screws①

9. Install acrylic front cover



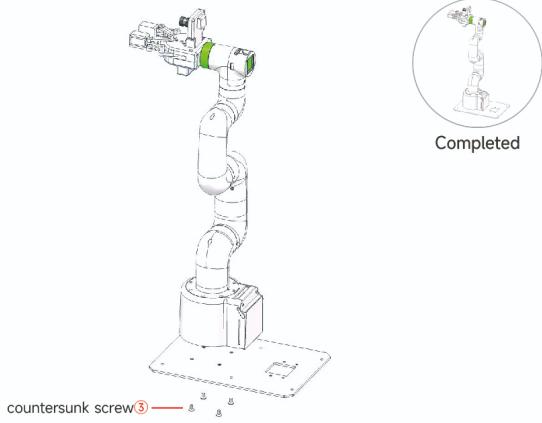
12. Install camera



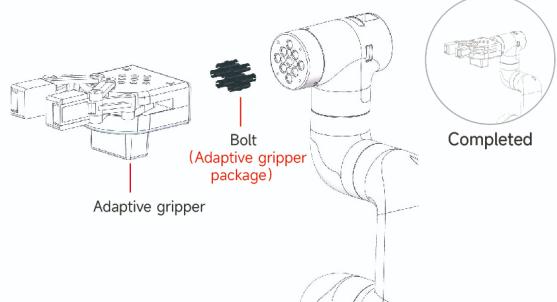
10. Install Robotic arm expansion board



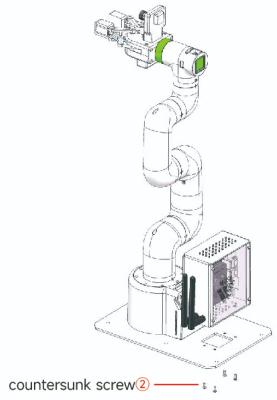
13. Install robotic arm



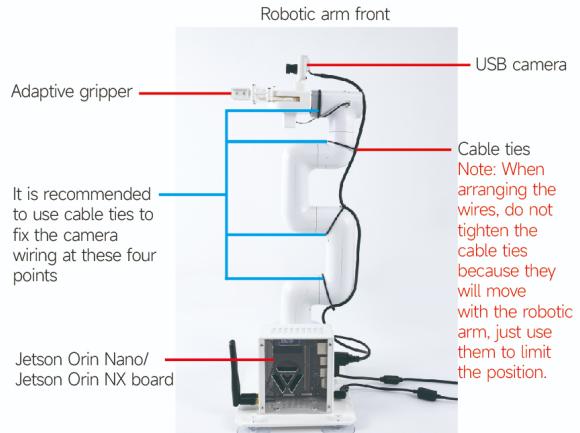
11. Install gripper



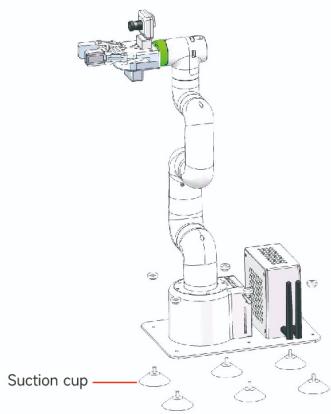
14. Install chassis box



**Wiring Diagram Of JETSON ORIN NANO/
JETSON ORIN NX Version**



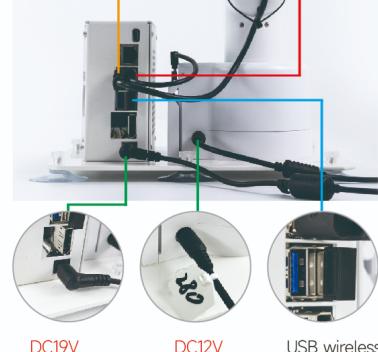
15. Install suction cup



USB camera interface

Jetcobot USB adapter board

Robotic arm side



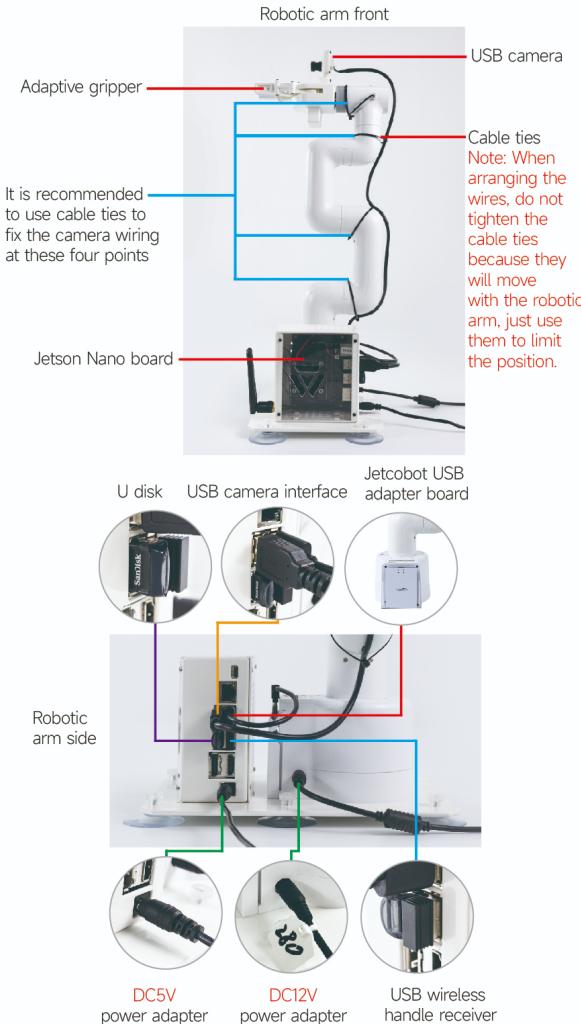
DC19V power adapter

DC12V power adapter

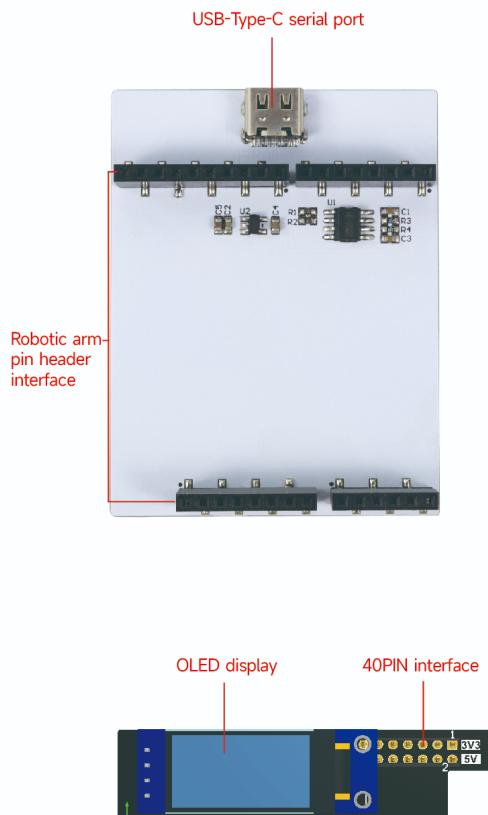
USB wireless handle receiver

Note: To avoid damaging the device by incorrect insertion, please carefully check voltage of power adapter before inserting it.
The power adapter of the robotic arm with have a "280" label buckle.

Wiring Diagram Of JETSON NANO Version

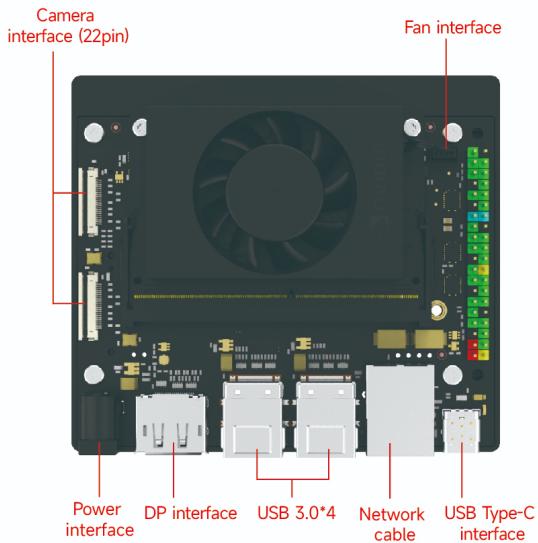


Expansion Board Interface Description

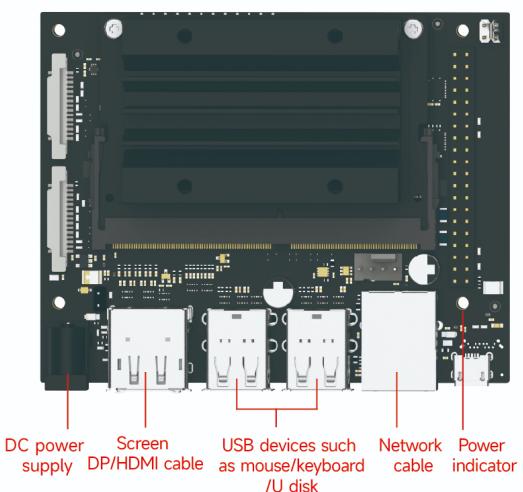


Note: To avoid damaging the device by incorrect insertion, please carefully check voltage of power adapter before inserting it.
The power adapter of the robotic arm with have a "280" label buckle.

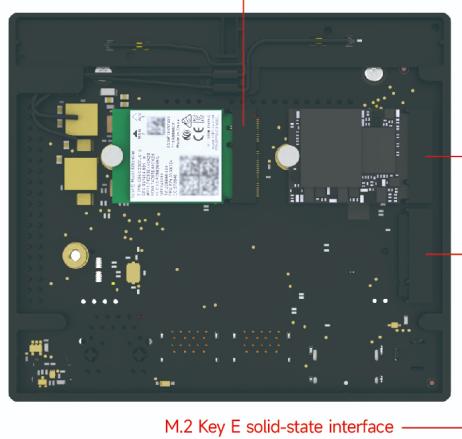
Jetson Orin Nano/Jetson Orin NX board introduction



Jetson Nano board introduction

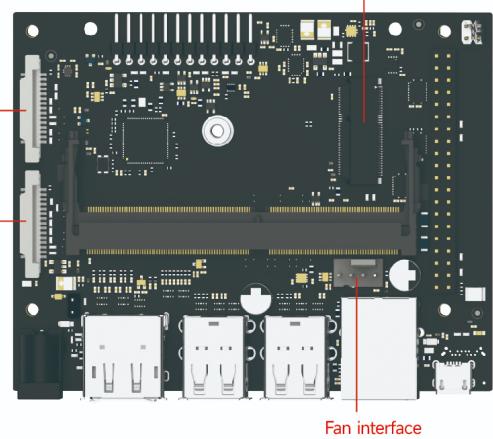


M.2 Key E network card interface (75pin)



Camera interface

Wireless network card



Fan interface

First Trial

Preparation

After checking that the USB device is connected correctly, power supply the main control board and the robotic arm. Wait for 1 minute, the robot arm system will start up. After the system starts, robotic arm will initialize and stand upright.

APP remote control

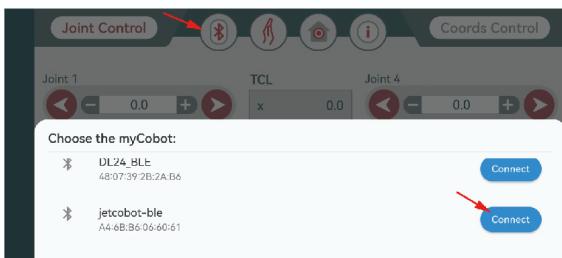
1.Download APP

If you are an Android user, search for "mycobot" in Google Play Store to download APP. Or scan the QR code below to download the APP file. iOS users are not supported yet.

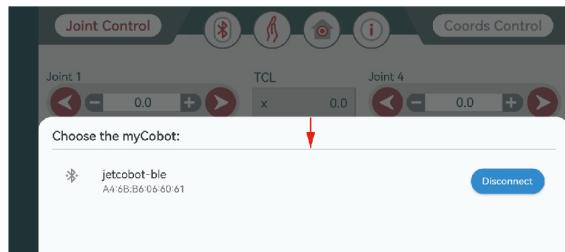


2.Bluetooth connection interface

Click the Bluetooth icon, then select the Bluetooth device name [jetcobot-ble], and click [Connect].

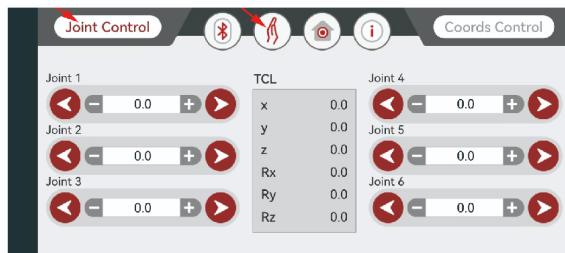


After the connection is successful, the status will change to [Disconnect]. Scroll down the Bluetooth interface to back to the control interface.



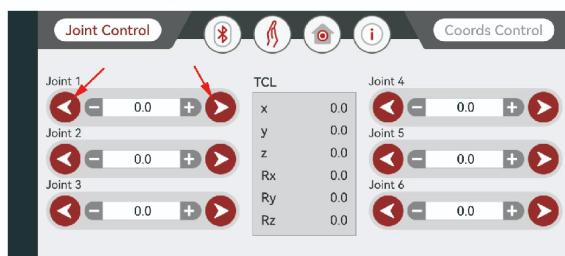
3.Enable robotic arm control function

Click [Joint Control] in the upper left corner to switch to the servo control mode. Then, click the second icon to enable the robot arm control function.



4.Control robotic arm

Joint1-6 represents the six degrees of freedom joints of robotic arm from bottom to top, which can control a joint to reach the corresponding angle. Short press to control once, long press to control continuously.



Handle Control

1. Confirm USB wireless controller receiver has been inserted into the USB port of the board
2. Install battery on the handle and turn power switch on the handle to [ON].



3. Press the [START] button to activate the handle.
4. You can start control robotic arm. The button functions are shown in the figure below.

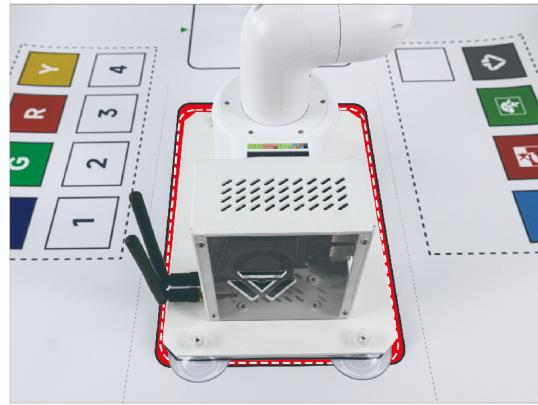


- ①: Up and down control joint 1, left and right control joint 2
 - ②: Up and down control joint 3, left and right no function
 - ③: Up and down control joint 4, left and right control joint 5
 - ④: YA control joint 7 (gripper), XB control joint 6
 - ⑤: L1 control robotic arm speed to increase, L2 control robotic arm speed to decrease
 - ⑥: R1 control the gripper to clamp immediately, R2 control the gripper to release immediately.
 - ⑦: [SELECT] button control robotic arm joint angle to back to the initial position.
- [START] Activate the handle.
[MODE] Mode switch, do not press this button.

Note: When the wireless handle is idle for a few minutes, it will automatically enter the sleep state.
At this time, you need to press the [START] button to activate the handle before you can control robotic arm.

Install map

Open the map and lay it flat on the table. Then, align the chassis of the robotic arm with the chassis outline on the map, and gently press down to let the suction cup stick to the map.



FAQ

Q1. How is Jetcobot power supply?

A: The robotic arm is powered by a DC 12V 5A power adapter; the Jetson Orin NX/Nano board is powered by DC19V 2.37A power adapter; the Jetson Nano B01 board is powered by DC 5V 4A power adapter.

Since all three power adapters have the same DC interface. In order to avoid damaging the device by plugging in the wrong adapter, you must carefully check the power supply voltage of the power adapter before plugging it in.

Q2. Why should the APP control process be turned off? What is the impact on program development?

A: In order to experience the control program conveniently, the robot automatically runs the APP and handle control process when it is turned on.

Before running other routines, in order to avoid the routine calling resource failure or interference, you need to turn off the APP control process first.

If you do not use APP control for a long time, you can permanently turn off the APP control program according to the tutorial.

Q3. What does the environment variable MY_SERIAL mean?

A: MY_SERIAL represents the serial port symbol, which points to "/dev/ttyUSB0" by default.

If you need to modify it, edit the .bashrc file in the /root directory in the Docker container, find export
MY_SERIAL="/dev/ttyUSB0", save the changes, and restart the terminal to make them take effect.

Specification For Safe Use Of Power Adapter

1. It is strictly prohibited to connect to equipment that exceeds the load used by the product.

2. Please use the official power adapter provided by Yahboom.

3. The power adapter should be disconnected after using, and the power should be closed when the person is not present.

4. Keep away from heat, fire, any liquid. Don't use it in wet or rain. Humid environment may cause the battery to ignite or even explode.

5. When the power adapter catches fire or smoke, please use sand or dry powder fire extinguishers to extinguish the fire, and then quickly evacuate to a safe area.

6. Don't use the battery when it is leaking, damaged, heated, deformed, discolored, smelly or any other abnormal phenomenon, and contact Yahboom or other agents in time.

7. Please use the battery at 0°C~35°C environment. The battery will be damaged or the discharge performance will be extremely reduced at other temperatures.

8. It is strictly forbidden to pierce, short circuit, reverse connection, welding, bumping, rolling, or throwing the power adapter.

9. Do not use the battery in a strong static and magnetic field environment, otherwise the product will be damaged.

10. It is strictly forbidden to modify or modify the hardware circuit board without permission.

11. Do not allow children to operate the power supply without adult supervision.

12. If the charger smokes or hot (the outer packaging will crack in severe cases), please quickly disconnect power supply.

13. Different power adapters have different output voltages.
Please connect the corresponding power adapter according to
different devices.

Tutorial link

<https://www.yahboom.net/study/JETCOBOT>

Be a distributor

E-mail: sales@yahboom.com

Technical Support

Email: support@yahboom.com

Website: www.yahboom.net

Shenzhen Yahboom Technology Co,Ltd.