DOBOT ATOM Humanoid Robot Quick Start

Original Instructions
Issue: V1.1
Date: 2025.09.04

SHENZHEN DOBOT CORP LTD

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Before using our product, please thoroughly read and understand the contents of this document and related technical documents that are published online, to ensure that the robot is used on the premise of fully understanding the robot and related knowledge. Please use this document with technical guidance from professionals. Even if follow this document or any other related instructions, damages or losses may happen in the using process. Dobot shall not be considered as a guarantee regarding all security information contained in this document.

The user has the responsibility to make sure following the relevant practical laws and regulations of the country, in order that there is no significant danger in the use of the robot.

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Preface

This document describes the functions, technical specifications, installation instructions of Dobot ATOM humanoid robot, making it easy for users to fully understand and use ATOM.

Scope of application

- DOBOT Atom – Max
- DOBOT Atom - Trainer
- DOBOT Atom - Standard
- DOBOT Atom D - Data Collection

Intended audience

This document is intended for:

- Customer
- Sales Engineer
- Installation and Commissioning Engineer
- Technical Support Engineer

Revision history

Date	Version	Revision history
2025/09/04	V1.1	Updated the robot charging time

Symbol conventions

The symbols that may be found in this document are defined as follows.

Symbol	Description
⚠ DANGER	Indicates a hazard with a high level of risk which, if not avoided, could result in death or serious injury.
⚠ WARNING	Indicates a hazard with a medium level or low level of risk which, if not avoided, could result in minor or moderate injury, robot damage.
⚠ NOTICE	Indicates a potentially hazardous situation which, if not avoided, could result in robot damage, data loss, or unanticipated result.
ⓘ NOTE	Provides additional information to emphasize or supplement important points in the main text.

Contents

1. Safety Instructions

1.1 Safety warning sign

The following safety warning signs may appear on the product, and their meanings are as follows:

Symbol	Description
⚠ **DANGER**	Indicates a high potential hazard that, if not avoided, could result in death or serious injury.
⚠ **ELECTRICITY**	Indicates a potentially dangerous electrical situation that, if not avoided, could result in injury, death, or serious damage to the equipment.
⚠ **HOT** 	Indicates a potentially dangerous hot surface that, if touched, could result in personnel injury.
⚠ **WARNING**	Indicates a moderate or low potential hazard that, if not avoided, could result in minor personal injury and damage to the equipment.
⚠ **NOTICE**	Indicates a potentially hazardous situation which, if not avoided, could result in robot damage, data loss, or unanticipated result.
⚠ **CAUTION**	Indicates a situation that, if not avoided, could result in personnel injury or damage to the product. For items marked with such signs, depending on the specific situation, this may lead to significant consequences.

1.2 General safety

Please operate the robot in an indoor environment with a working temperature range of -5°C to +40°C. Follow the safety instructions below when starting and using the robot for the first time.

DANGER

- Please comply with local laws and regulations strictly. The safety precautions described in this document serve only as a supplement to local safety standards.
- Avoid using the robot in harsh environments such as wet, high-temperature, strong magnetic, or high-radiation conditions.
- Minors, untrained individuals, or persons with limited physical / sensory abilities must not operate the robot.
- Unauthorized modification or disassembly of the robot by non-professionals is strictly prohibited.
- Stop and power off the robot immediately when the battery is low to prevent damage from automatic shutdown and falling.

HOT

The robot generates heat during operation. Avoid touching the motor surface while it is running to prevent burns.

WARNING

- It is prohibited to modify or remove the nameplate, instructions, icons, or labels on the robot.
- Do not obstruct the robot's sensor areas (head, wrists, waist). Blockage may impair detection accuracy and cause system malfunction.
- If the robot exhibits abnormal operation, immediately press the "LB + A" buttons on the remote controller to put the robot into damping mode. The robot will slowly fall to the ground.
- If remote stop or other operations fail to take immediate effect, promptly press E-stop button A or B to trigger the emergency stop function and ensure safety.
- During the installation process, the robot must be held by personnel to prevent any collisions that could lead to surface scratches or functional damage.
- Make sure that the robot has sufficient space to move freely. Do not approach the robot while it is in operation.
- Do not continue using the robot if it is damaged.

NOTICE

- Personnel responsible for the installation, operation, maintenance, and servicing of the robot must undergo rigorous training, be fully aware of all safety precautions, and master the correct operation and maintenance procedures.
- In case of a malfunction, contact Dobot's technical support engineer in time.
- Perform daily inspections and regular maintenance, and promptly replace any faulty components.
- Dobot assumes no responsibility for robot damage or personal injury caused by improper operation or failure to follow the product's instructions for use.
- Robot Handling operations must be conducted using appropriate and reliable lifting devices, and must be carried out by qualified personnel or those authorized by the company in accordance with local regulations.
- Do not move or transport the robot while it is powered on.
- Dobot is not responsible for any damage caused during the transportation and handling of the robot.
- Make sure that the packing and unpacking area are free of obstacles to allow staff to evacuate quickly in case of emergencies.
- When transporting the robot, secure the packaging properly to prevent tilting or shaking.
- During debugging, make sure that no personnel or other equipment (including computer used for debugging) is present in the hazardous area of the machine.
- When the robot is in motion, ensure the surrounding area is clear. Always use a tether or protective frame to prevent falls, which may damage the robot or cause injury to personnel.
- If you need a long standby time, please hang the robot on the protective frame and secure it, which can avoid the robot from automatically shutting down and falling down due to low battery.

1.3 Personal safety

When using the robot, please strictly follow the general precautions listed below to ensure the personal safety.

WARNING

- Comply with local laws or regulations with regard to the maximum weight one person is permitted to carry.
- After powering on the robot, do not touch it with your hands.
- When using the robot, avoid wearing loose clothing or jewelry. Keep fingers, hair, and clothing away from joints, gaps, and moving parts to prevent pinching or entanglement.

2. Product Introduction

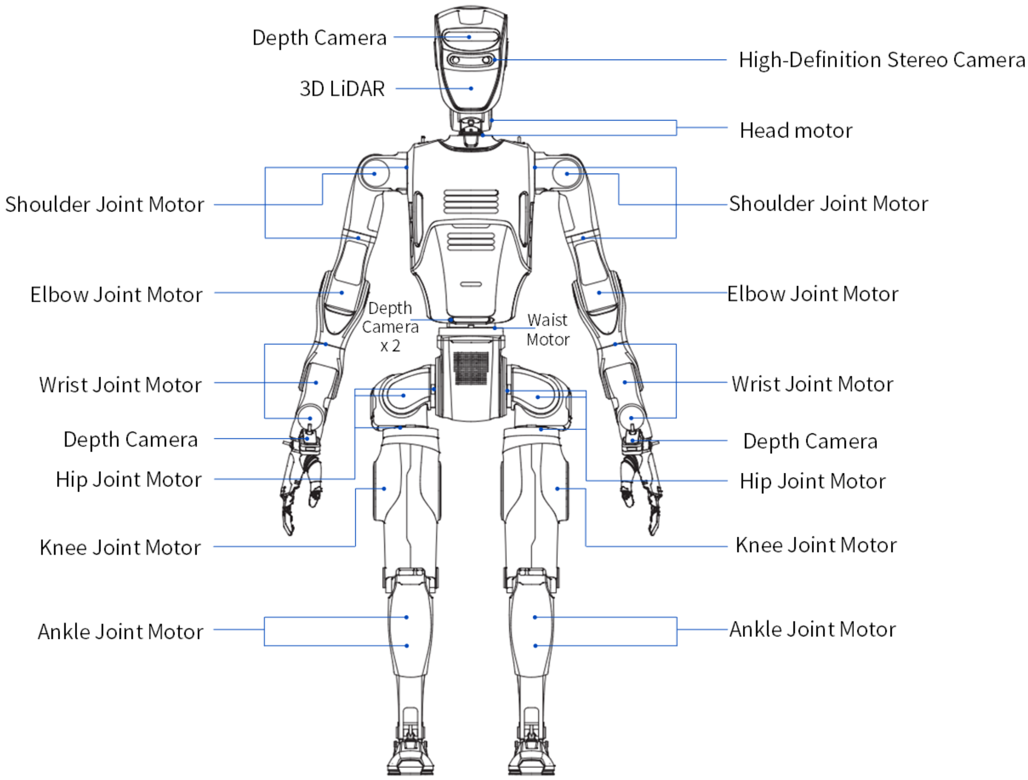
2.1 Product overview

The Dobot ATOM series is the world's first "Dexterous Manipulation + Straight-Knee Walking" embodied AI humanoid robot, independently developed by Dobot. The robot features a full joint hollow routing and a 1:1 full-scale humanoid arm design. It is equipped with a 7-DOF industrial-grade bionic collaborative arm (±0.05mm repeat positioning accuracy), a synchronized humanoid head, and a five-fingered dexterous hand. Powered by embodied AI operation models and AI edge computing, it enables “collection, training, and inference” for specific application scenarios.

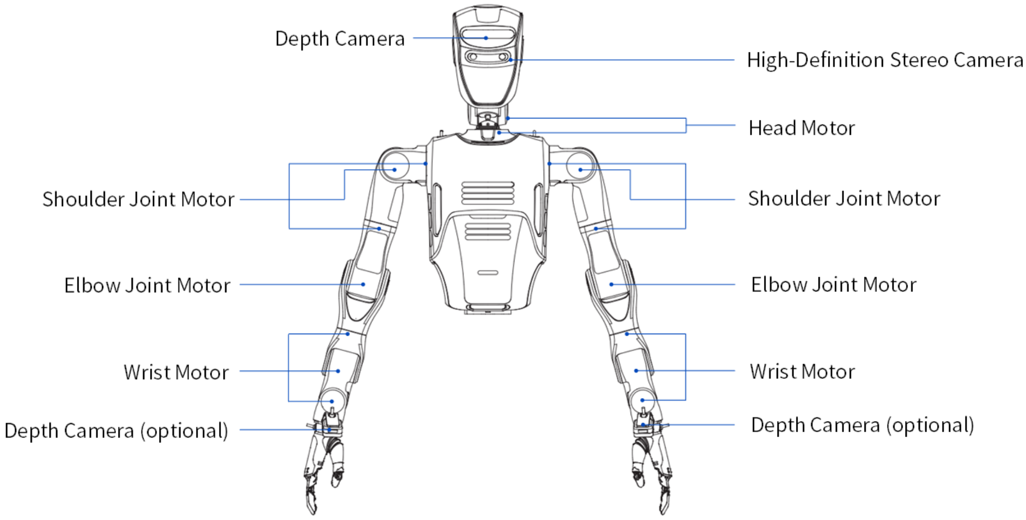
The Dobot ATOM robot is ideal for continuous and repetitive tasks in scenarios where equipment positions are not fixed, products vary in specifications, operations involve a high degree of similarity, and there is a need to navigate through short, confined spaces with agile turning capabilities. Examples include industrial tasks like automotive assembly line material handling, beverage preparation in coffee shops, and pharmacy nighttime dispensing.

2.2 Appearance

- DOBOT Atom - Max / DOBOT Atom - Trainer



- DOBOT Atom D - Data Collection



2.3 Technical specifications

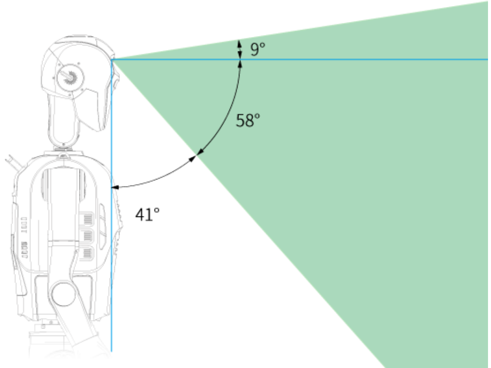
Product model	DOBOT Atom - Max	DOBOT Atom - Trainer	DOBOT Atom D - Data Collection
Height	About 1650mm	About 1650mm	About 650mm
Weight (Without dexterous hand/gripper)	About 62kg	About 62kg	About 20kg
Total Degrees of Freedom (Without dexterous hand/gripper)	29	29	16
Head Degrees of Freedom	2	2	2
Single Arm Degrees of Freedom (Without dexterous hand/gripper)	7	7	7
Waist Degrees of Freedom	1	1	0
Single Leg Degrees of Freedom	6	6	0
Arm's Reach (Without dexterous hand/gripper)	600 mm	600 mm	600 mm
Single Arm Weight (Without dexterous hand/gripper)	About 6.8kg	About 6.8kg	About 6.5kg
Single Arm Payload (Without dexterous hand/gripper)	3.5 kg	3.5 kg	3.5 kg
Single Arm Repeated Positioning Accuracy	±0.05mm	±0.05mm	±0.05mm
Maximum End Speed of the Arm	1.5 m/s	1.5 m/s	1.5 m/s
Audio Equipment	360° Omnidirectional Microphone x 1 Neodymium Speakers x 2	360° Omnidirectional Microphone x 1 Neodymium Speakers x 2	-
Maximum Walking Speed	1.5 m/s	1.5 m/s	-
Full Joint Hollow Routing	Yes	Yes	Yes

Basic Computing Power	Intel i5	Intel i5	Intel i5
High Computing Power Module 1500 TOPS	Intel i9 (24 Cores 32 Threads) High-Memory Dedicated Graphics Card (FP32 GPU Computing Power: 41.15 TFLOPS)	Intel i9 (24 Cores 32 Threads) High-Memory Dedicated Graphics Card (FP32 GPU Computing Power: 41.15 TFLOPS)	-
Battery Life	About 2h	About 2h	About 2h
Charging	About 2h	About 2h	About 2h
End Effector	6-DoF Dexterous Hand x 2	0	-
Head Sensor	Depth Camera x 1 High-Definition Stereo Camera x 1	Depth Camera x 1 High-Definition Stereo Camera x 1	Depth Camera x 1 High-Definition Stereo Camera x 1
Wrist Sensor	Depth Camera x 2	Depth Camera x 2	-
Waist sensor	Depth Camera x 2	Depth Camera x 2	-
Head LiDAR	3D LiDAR × 1	3D LiDAR × 1	-
Secondary Development	Support	Support	Support
Warranty	1 year	1 year	1 year

2.4 Camera and radar field of view

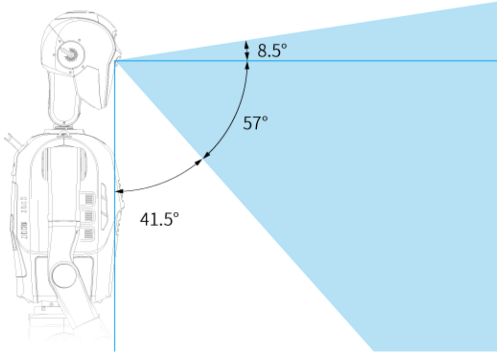
- **Head Depth Camera Field of View**

  The DOBOT ATOM - Max / DOBOT ATOM - Trainer / DOBOT ATOM - Data Collection are equipped with a head depth camera, enabling the robot to perceive and understand its surroundings with greater accuracy. The head depth camera has a field of view as shown in the right figure:



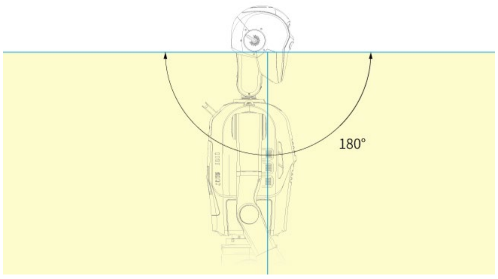
- **Head High-Definition Stereo Camera Field of View**

  The DOBOT ATOM - Max / DOBOT ATOM - Trainer / DOBOT ATOM - Data Collection are equipped with a head high-definition stereo camera, combined with a depth camera, enhancing the robot's spatial perception and obstacle detection capabilities. The head high-definition stereo camera has a field of view as shown in the right figure:



- **Head LiDAR Field of View**

  The DOBOT ATOM - Max / DOBOT ATOM - Trainer are equipped with head LiDAR, enabling real-time acquisition of precise environmental data and providing the robot with advanced environmental perception capabilities. The head LiDAR has a field of view as shown in the right figure:



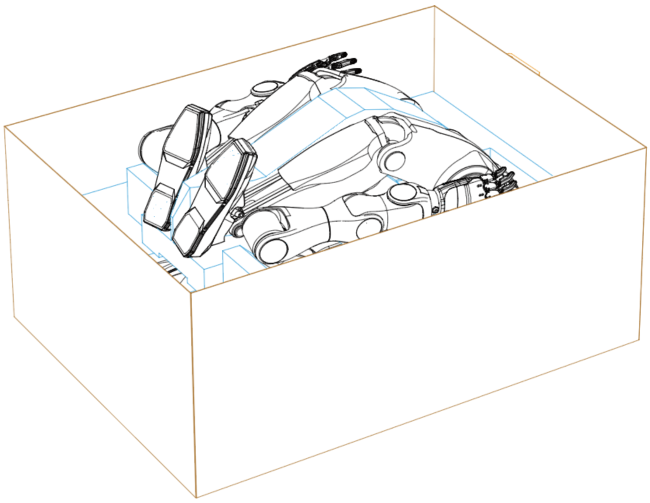
3. Quick Start

3.1 Unpacking

NOTE

The subsequent figures use the DOBOT ATOM - Max as reference. Other ATOM series models differ only in design while maintaining identical operation procedures. Please refer to the product you received for accurate appearance details.

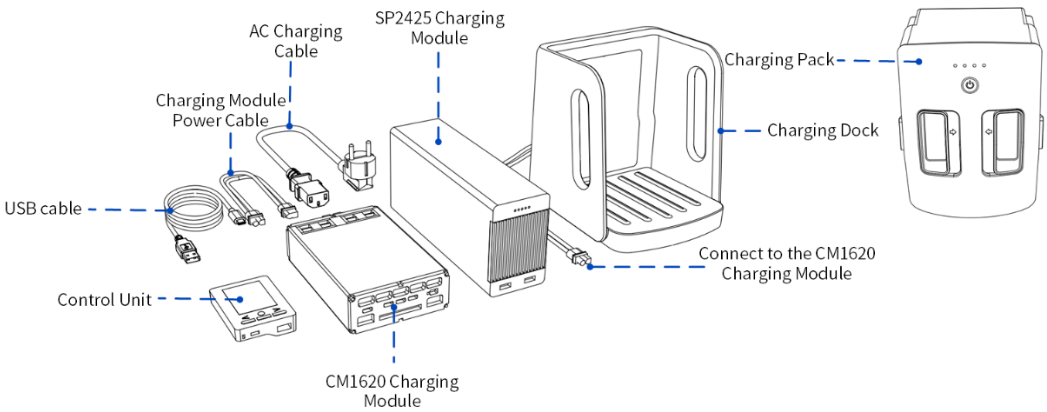
1. Upon receiving the robot, please check the outer packaging to ensure it is in good condition. If any damage is found, promptly contact the logistics company and your local supplier.
2. After opening the outer packaging, please verify the items against the unpacking checklist included with the product shipment. If any items are missing, promptly contact after-sales support for a replacement.



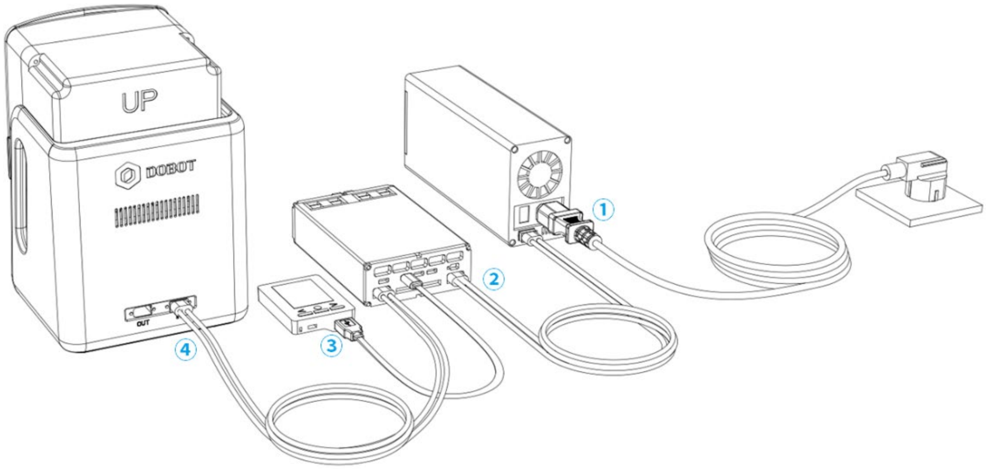
3.2 Battery pack charging

Due to battery self-discharge during transportation and storage, it is normal for the robot to have low or empty battery power upon first use. Please charge the battery pack according to the following procedure:

1. **Remove the battery pack:** After unpacking, take out the battery pack and the charger set. Check for any missing components.



2. **Connection:** Connect the battery pack to the charger set as shown in the figure below.



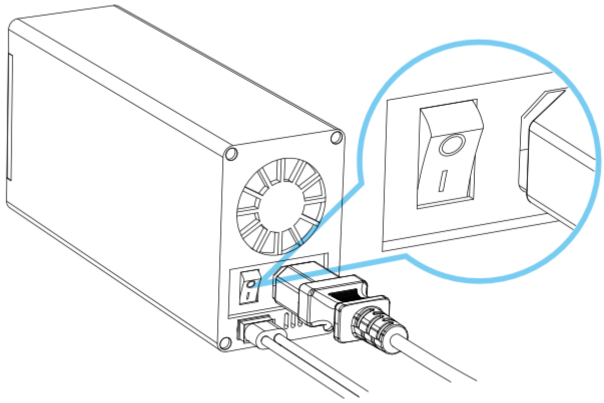
① Connect one end of the AC charging cable to the SP2425 charging module, and the other end to an AC power outlet.

② Connect one end of the charging module power cable to the SP2425 charging module, and the other end to the POWER port of the CM1620 charging module.

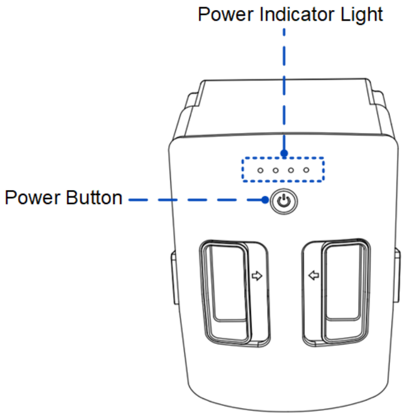
③ Connect one end of the USB cable to the HOST port of the CM1620 charging module, and the other end to the control unit.

④ Connect the BATTERY port of the CM1620 charging module to the IN port of the charging dock.

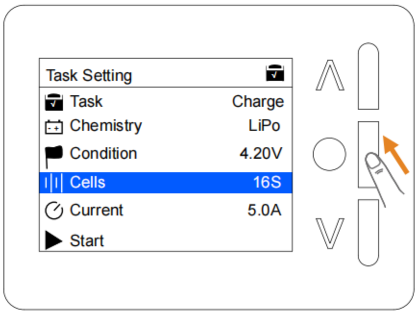
3. **Turn on the AC supply:** After checking all connections, turn on the AC socket switch.
4. **Turn on the SP2425 charging module:** Switch the rocker switch on the SP2425 charging module to the "I".



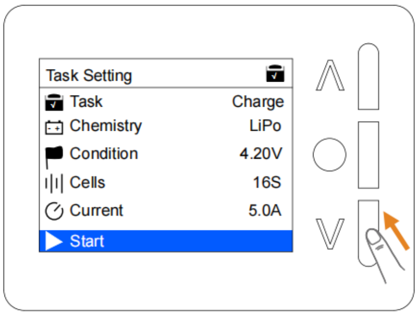
5. **Activate the battery pack:** Short-press the power button on the battery pack once, then long-press for 3 seconds. The battery pack is successfully turned on when all four power indicator lights illuminate in sequence and then blink.



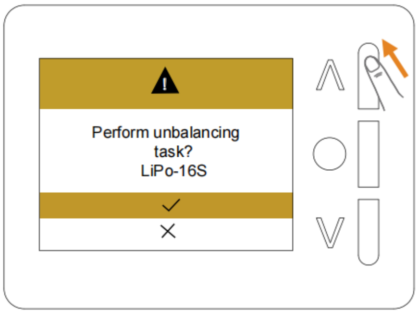
6. **Start charging:** After powering on the control unit, follow the steps below to begin charging the battery pack.



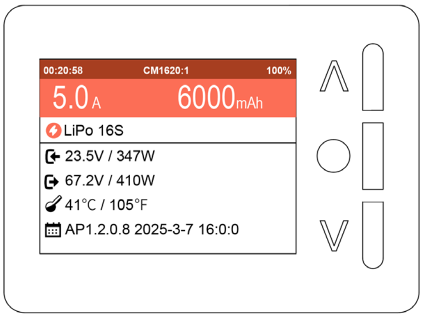
1) Press the **O** key to return to the main interface.



2) First, press the **∨** button to select "Start", then press the **O** key to confirm.



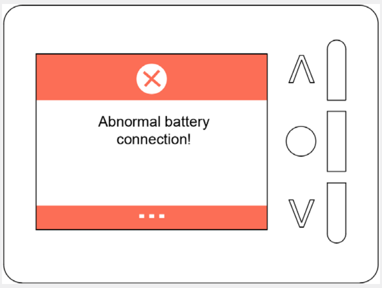
3) First, press the **∧** button to select "√", then press the **O** key to confirm and start charging.



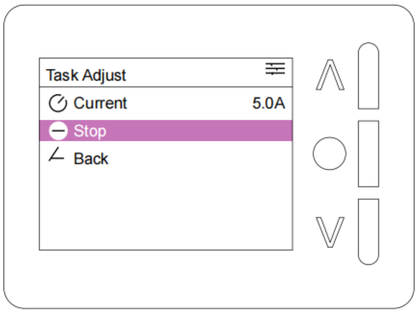
4) During the charging process, the control unit will display real-time data. When all four power indicator lights on the battery pack are steadily illuminated and the control unit displays 67.2V, it indicates that the battery pack is fully charged.

NOTE

If charging continues when the battery pack is already fully charged, the overcharge protection of the battery pack will be triggered, and the control unit will display a charging error.



7. **Stop charging:** After the battery is fully charged, first press the **O** button on the control unit to return to the main interface. Then press **v** to select "Stop", and finally press the **O** button to confirm and stop charging.



8. **Power off the battery pack:** Long-press the battery pack's power button for 3 seconds. The four battery indicator lights will dim sequentially, indicating that the battery pack is powered off.
9. **Disconnect the AC power:** Set the rocker switch of the SP2425 charging module to the **O**, then manually unplug the AC power plug.

NOTICE

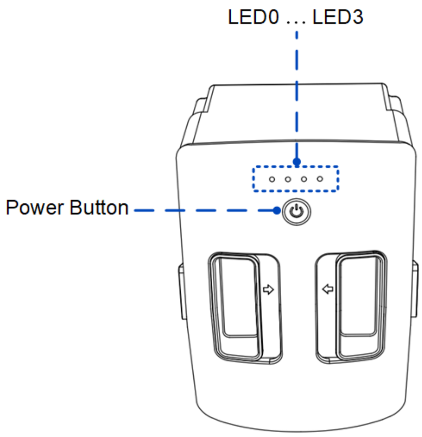
- Always use the official Dobot charger provided with your device. Using unofficial chargers to charge the battery pack is strictly prohibited.
- Operating temperature range for the charger: -20°C to +60°C. Charging voltage: DC 67.2V. The default charging current is 5A, which can be adjusted via the control unit but must not exceed 10A (it is recommended to keep the default value of 5A).
- Before connecting to an AC power source, ensure that the voltage of the AC supply matches the charger's rated input voltage. Failure to do so may damage the charger.
- Before charging, ensure that the battery pack is turned off; otherwise, it may damage both the battery pack and the charger.
- When all four battery indicator lights are steadily on, it indicates that the battery pack is fully charged. Please disconnect the battery pack from the charger promptly.
- The battery pack must cool down to room temperature before recharging.
- If smoke, unusual odors, overheating, or deformation occur during charging, immediately unplug the charger.
- If battery electrolyte accidentally gets into the eyes, immediately rinse thoroughly with plenty of clean water and seek medical attention without delay.

3.3 Check the battery pack level

Short-press the battery pack’s power button to check the remaining battery level based on the indicator lights.

NOTE

- The battery indicator lights are labeled LED0 to LED3 from left to right, with LED0 on the far left and LED3 on the far right.
- Battery indicator icon meanings: Off ◯, Steady on●, Fast Flashing◉, Slow Flashing◎.

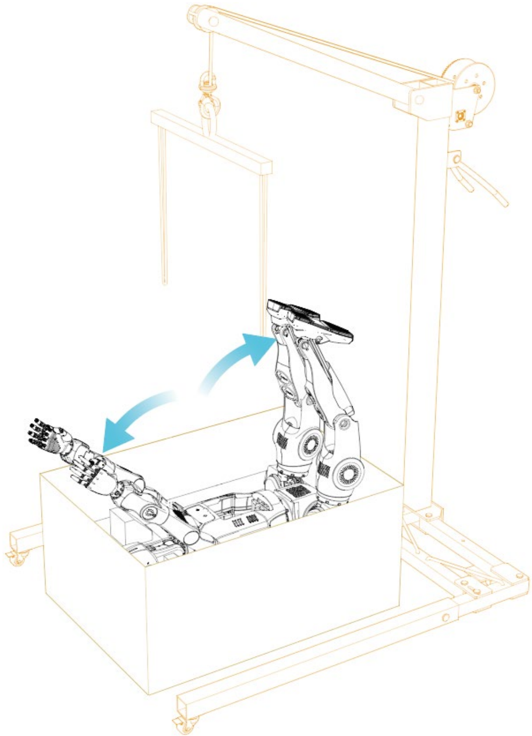


Battery indicators				SOC status
LED0	LED1	LED2	LED3	
○	○	○	○	SOC ≤ 10 (Unable to discharge)
◉	○	○	○	10＜SOC≤20
◎	○	○	○	20＜SOC≤30
●	○	○	○	30＜SOC≤40
●	◎	○	○	40＜SOC≤50
●	●	○	○	50＜SOC≤60
●	●	◎	○	60＜SOC≤70
●	●	●	○	70＜SOC≤80
●	●	●	◎	80＜SOC≤90
●	●	●	●	90＜SOC≤100

3.4 Suspension before powering on

1. **Prepare the robot:** Place the packaging box in an appropriate position under the hoist and extend the robot's arms and legs outward.

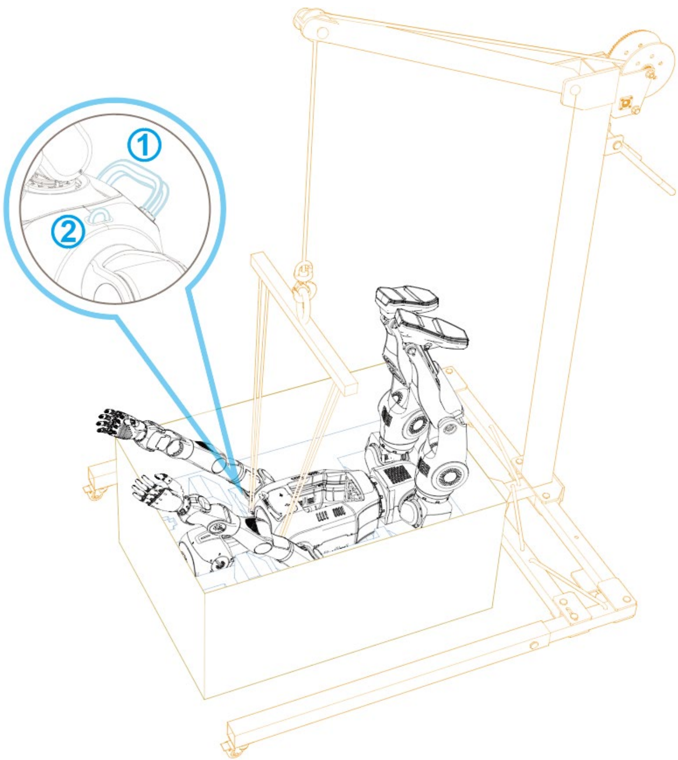
> **NOTICE**
>
> During the entire hoisting process, someone needs to hold the robot's hands and legs throughout to avoid bumping or damaging the robot.



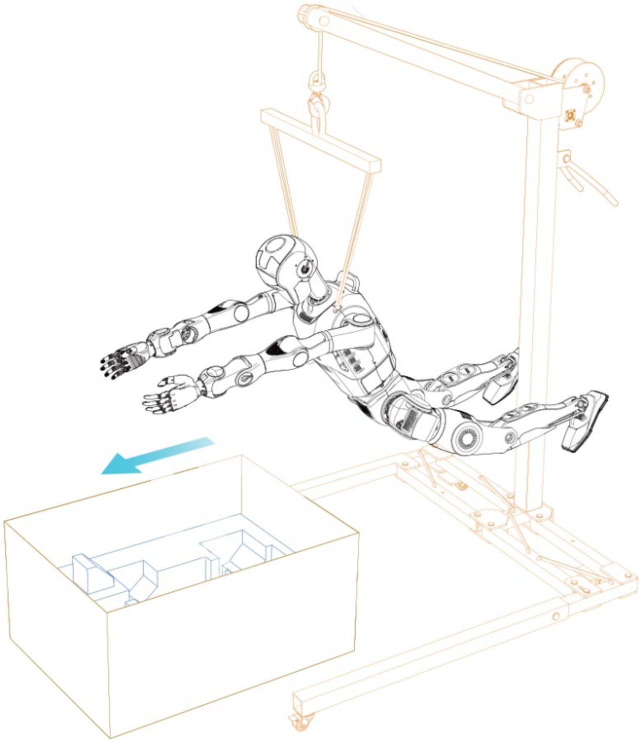
2. **Suspension preparation:**

   ① Grab the fixed ring on the back of the robot to slightly lift it away from the inner lining of the packaging box.

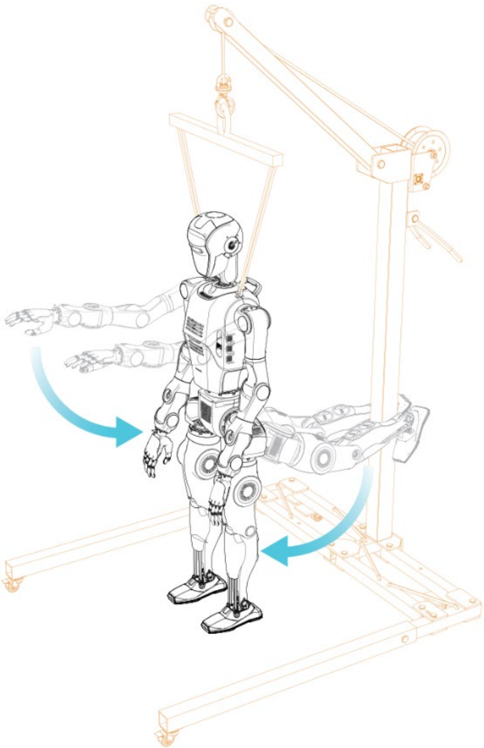
   ② Attach the hoist hook to the fixed rings on both shoulders of the robot.



3. **Raise the robot:** Use the hoist to slowly raise the robot, and once the robot is out of the packaging box, remove the packaging box.

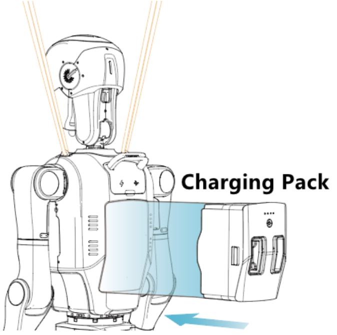


4. **Straighten the robot:** As the hoist raises the robot, use your hands to support the robot's arms and legs to slowly lower it down, until the robot's two feet are close to the ground but not touching it (in a suspended state). Ensure that the robot's arms and legs are naturally positioned, with no entanglement in the joints.

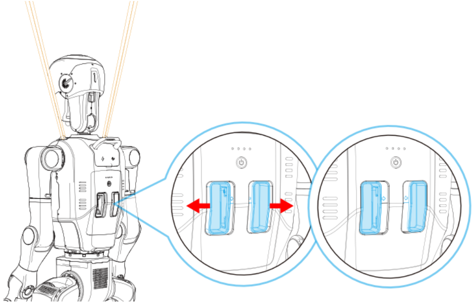


5. **Install the battery pack**

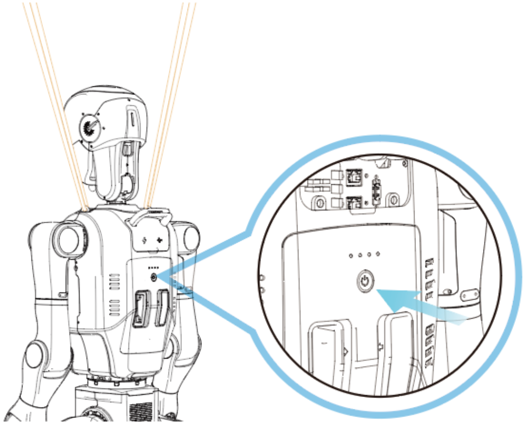
① Hold the battery pack with one hand, pinch the buckle in the middle with the other hand, and push the fully charged battery pack into the battery slot on the back of the robot.



② Gently push buckles to both sides to ensure they are securely fixed in place. After installation, lightly pull the battery pack to ensure there is no looseness.



6. **Activate the battery pack:** Before powering on the battery pack, please adjust the robot's head to a straight position (level and facing forward). Then short-press the battery pack's power button once, and long-press for 3 seconds. The four indicator lights illuminate in sequence and then flash, indicating that the battery pack has been successfully activated.

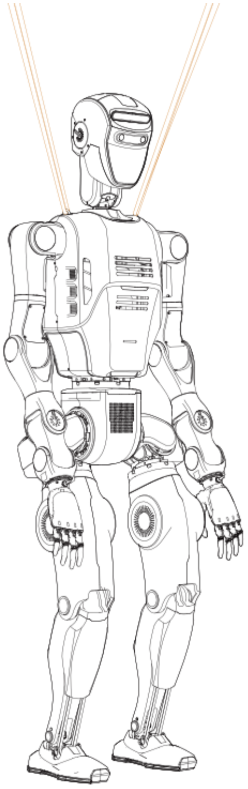


NOTICE

If the robot's head is not properly positioned (e.g., the head is drooping), powering on may trigger a limit alarm.

7. **Start the robot:** After the robot passes the self-check, it enters the zero-torque state. At this point, you can connect to the App to check if the robot has any errors. If there are no errors, you can follow the steps below to switch different robot modes.

Remote Controller	LB + A →	LB + UP →	RB + X/B
Robot Posture	Damping Posture →	Prepare for Locked Standing Posture →	Prepare for Bent-Knee / Straight-Knee Walking Mode



Prepare for Bent-Knee Walking Mode

NOTICE

After entering the Prepare for Bent-Knee / Straight-Knee Walking Mode, the robot will interpolate within 10 seconds to transition to the default joint angles of the bent-knee model or straight-knee model (non-operable). During this process, the robot needs to be hoisted to suspend in the air or have personnel hold it to prevent it from falling.

8. **Lower the suspension rope:** Make ATOM's feet touch the ground, press the RB+A button on the remote controller to enter the Bent-Knee / Straight-Knee Walking Mode (the specific walking mode entered depends on the prepared mode in the previous step).

NOTICE

During the descent of the suspension rope, personnel must hold onto ATOM to ensure it remains upright and stable, with the suspension rope slack and free of tension.

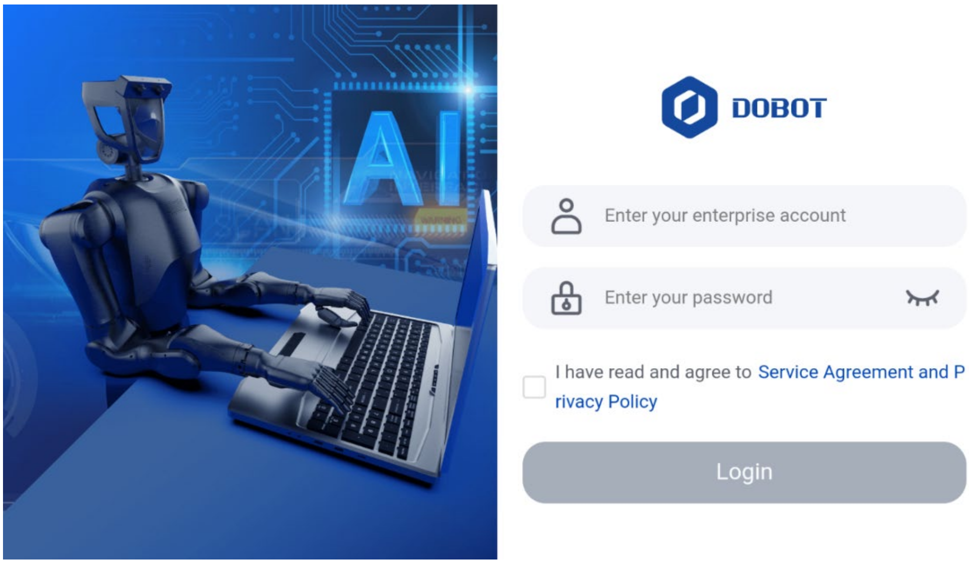
9. **Release the suspension rope:** Once ATOM's movement is confirmed normal, untie the rope and control the robot via remote controller.

NOTICE

In case of an emergency, press LB+A to put the robot into damping state, and the robot will slowly fall to the ground.

3.5 Connect to Dobot Ex app

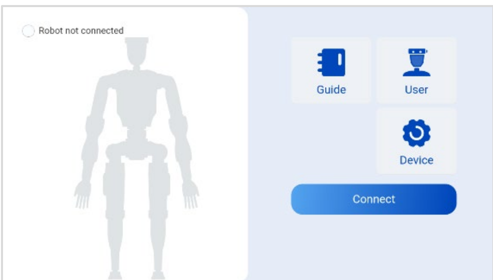
1. Please contact Dobot technical support to obtain the **Dobot Ex** App installation package, download and install it.
2. Double-click to open the Dobot Ex App and log in using the enterprise account and password provided by the sales.



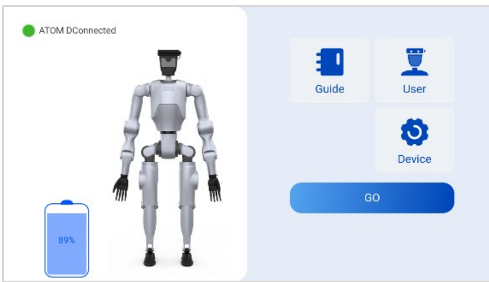
NOTE

If you do not have an enterprise account, please contact DOBOT sales service personnel to obtain one.

3. Power on ATOM by following the Suspension before powering on procedure.
4. Turn on the phone's WiFi switch and connect to the WiFi named "ATOM+SN code" (default password: 12345678).
5. On the initial interface of the Dobot Ex App, click the "Connect" button. When the interface displays the ATOM appearance and battery level, it indicates that the connection has been completed.



Robot not connected



Robot connected

3.6 Connect to remote controller

Before using the remote controller, switch the top button to the "X" mode, and press the MODE button to turn off the indicator light. The ATOM robot will automatically connect to the remote controller after powering on. You can control the robot's motion direction and motion state using the joystick and buttons on the remote controller.

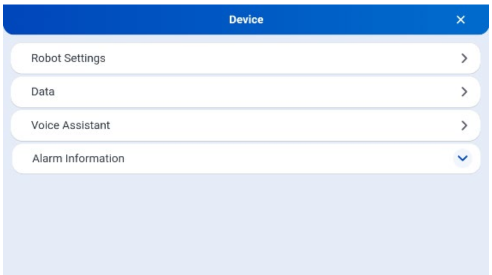
NOTICE

- The remote controller must be strictly set to "X" mode. After switching mode, the robot needs to be powered on again.
- During the use of the remote controller, the MODE indicator light must always remain off.

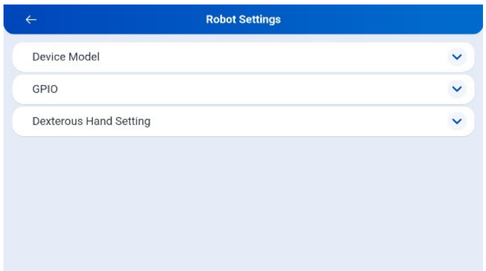
3.7 Basic operations

3.7.1 View ATOM information

After connecting the robot using the App, you can enter the "Device" page to view robot information such as robot mode, version information, joint information, alarm information, etc., and configure some functions.

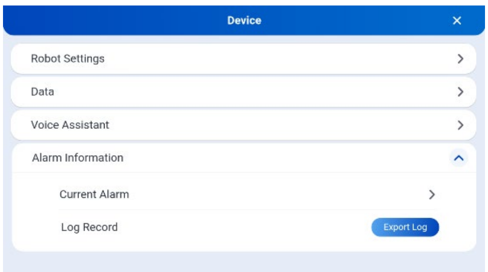


"Device" page



"Device > Robot Settings"

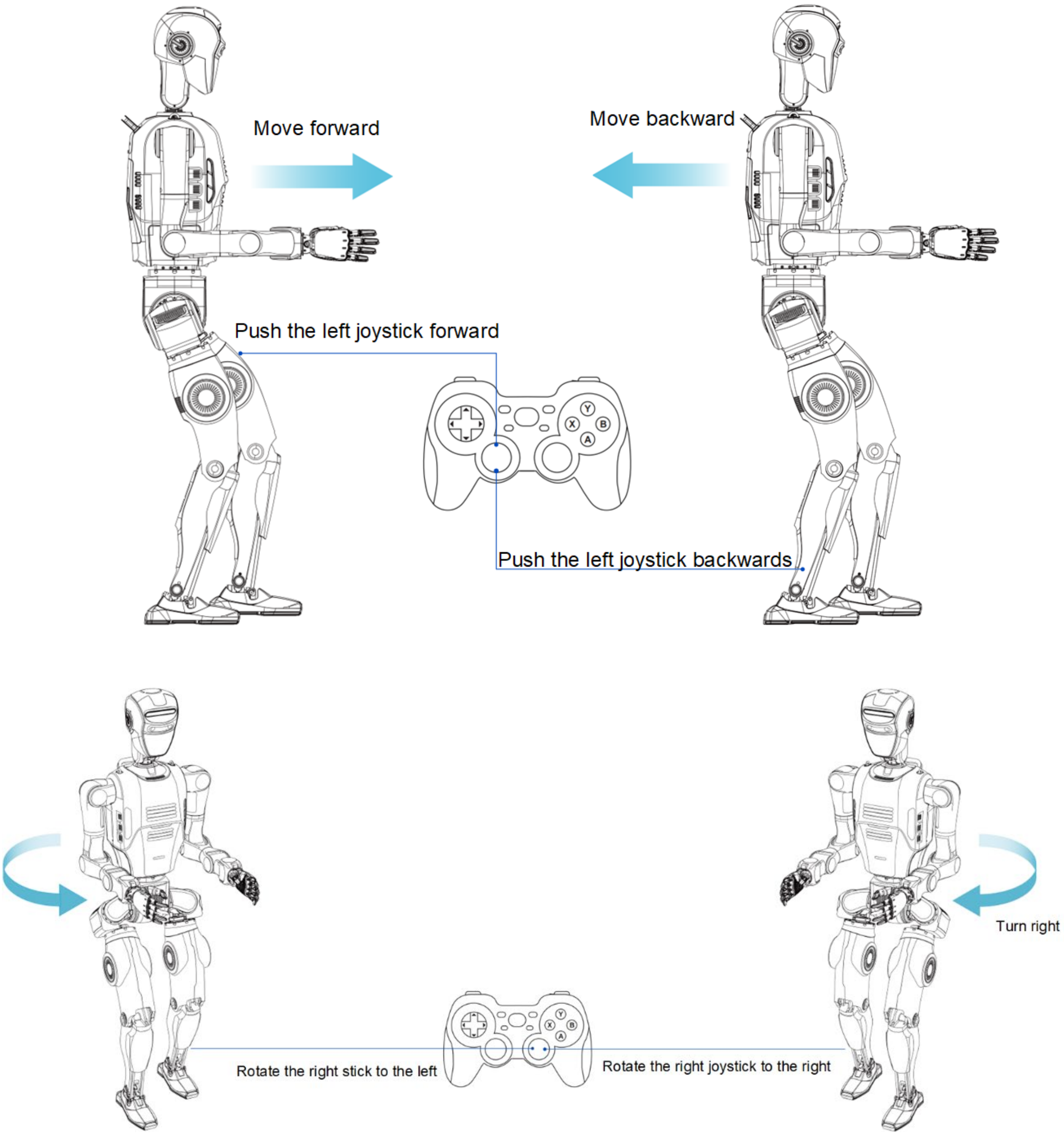
"Device > Data"



"Device > Alarm Information"

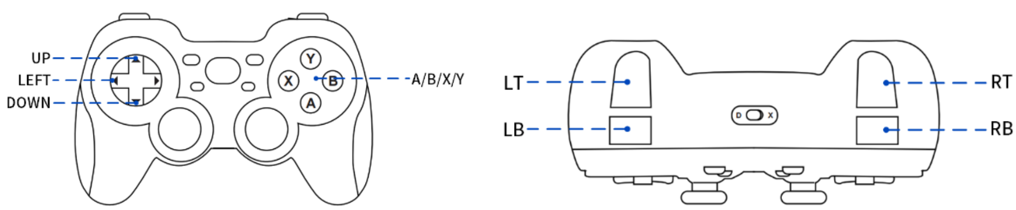
3.7.2 Control movement and steering

First, make sure the MODE button indicator light on the remote controller is always off, then use the left joystick on the remote controller to move the robot forward and backward, and the right joystick to turn the robot left and right. As shown in the figure below:



3.7.3 Switch robot states

The robot's states can be switched using the following combined buttons on the remote controller.

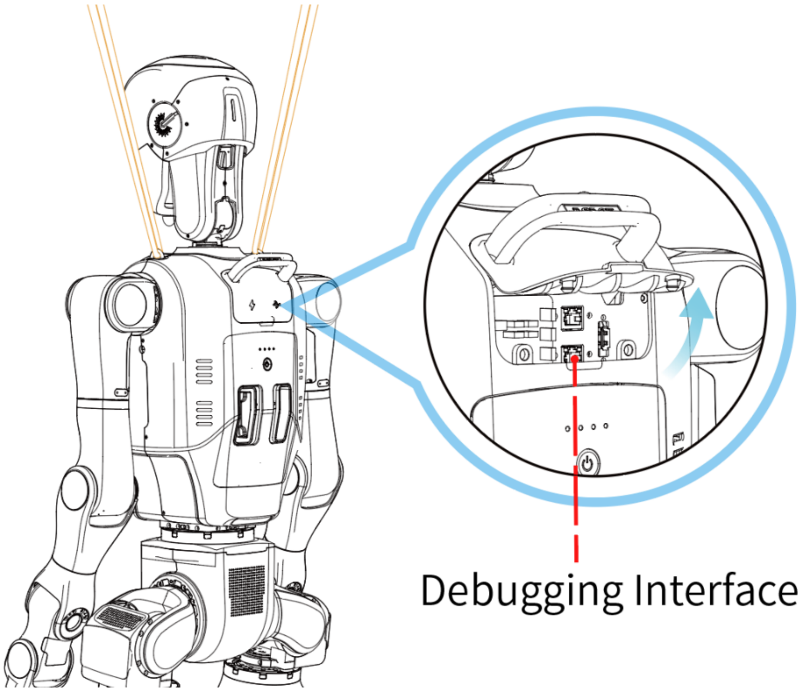


Remote controller buttons	Robot status	Description
LB+B	Zero Torque State	All robot motors will stop active movement, and there is no damping sensation during swinging.
LB+ A	Damping State	All robot motors will stop active movement, and there is a noticeable damping sensation during swinging.
LT+RT	Debugging State	Development and debugging based on the underlying control SDK. Acquire real-time operation data (battery, motors, IMU, etc.) and directly drive the motors.
LT+ A	Diagnostic State	Controls joint positions to switch the robot to a specific diagnostic posture. Press **LT+B** to switch from diagnostic mode to debugging mode.
LB+DOWN	Squatting state	The robot slowly assumes a squatting posture within 5 seconds (without balance control).
LB+UP	Prepare for Locked Standing Posture	The robot slowly assumes the prepared posture before the motion mode within 5 seconds (without balance control)
LB+LEFT	Sitting State	The robot slowly assumes a sitting posture within 5 seconds (without balance control).
RB+B	Prepare for Straight-Knee Walking	The robot slowly assumes a prepared posture for straight-knee walking within 5 seconds (without balance control).
RB+X	Prepare for Bent-Knee Walking	The robot slowly assumes a prepared posture for bent-knee walking within 5 seconds (without balance control).
RB+X → RB+A	Bent-Knee Walking Mode	First press **RB+X** to control the robot into a prepared posture for bent-knee walking, then press **RB+A** to enter the bent-knee walking mode, to be used as a prepared posture before the motion state and skill state.
RB+B → RB+A	Straight-Knee Walking Mode	First, press **RB+B** to control the robot into the prepared posture before straight-knee walking, then press **RB+A** to enter the straight-knee walking mode, to be used as a prepared posture for motion state and skill state.

3.8 Debugging instructions

1. Hang the ATOM robot and press the **LB+A** button on the remote controller to control it in damping state.
2. Press the **LT+RT** button on the remote controller, and ATOM will enter debugging state. Under debugging state, the robot defaults to a damping state. Development and debugging can be performed using the underlying control SDK to directly drive the motors. It supports customized teleoperation, deployment and control of reinforcement learning models, as well as real-time monitoring of battery, motor, and IMU data.

   The interface for debugging is located under the fixing ring on the back of the robot, and can be accessed by uncovering the silicone shell, as shown in the figure below:



3. Press the **LT+A** button, and ATOM will enter diagnostic state and assume a specific diagnostic posture. Press the **LT+B** button again, and ATOM will return to debugging state.

> **NOTE**
>
> This process is used to confirm whether ATOM has successfully entered the debugging state or for hardware troubleshooting.

3.9 Emergency stop instructions

The robot can be controlled to stop immediately using the following methods, please ensure the robot is protected before performing an emergency stop to avoid accidental damage.

- **Soft E-stop**

  In the event of an emergency, the robot can be controlled to enter a damping state by pressing the **LB+A** button on the remote controller and slowly fall to the ground.

- **Hard E-stop**

  Press the wireless E-stop button A or B that is shipped with the robot to immediately trigger the robot's emergency stop mode. After triggering the emergency stop, the robot needs to be restarted to function normally.

> **NOTE**
>
> The wireless E-stop button A is used to toggle the switch of the joint power, while the button B is used to toggle the switch of the control power (excluding the joint power). When the control power is powered off, the joint power will also be powered off.

3.10 Suspension before powering off

Before powering off, please make sure to rehang the ATOM onto the protective frame and secure it with a rope to keep it suspended. Ensure the robot is in the initial position after a successful start, with no arm operations and standing still.

1. Press the **LB+A** button on the remote controller to control the robot into damping state.
2. First, short-press the battery pack’s power button once, then long-press for 3 seconds to power it off (the four power indicators will dim one by one).

> **NOTICE**
>
> - If the robot is not used for a long time, please remove the battery pack in time.
> - Ensure the robot is suspended on the protective frame and shut down in a damping state; otherwise, the robot may fall to the ground after powering off, which could pose a safety hazard.
> - Be careful of the robot joints pinching your hand.

4. Common Issues and Solutions

Issue	Cause	Solution
The robot cannot be powered on	The battery pack is depleted	Check the battery level and charge it.
After the robot is powered on, the self-check fails	Joint power switch is turned off	Restart the robot using the battery pack's power button.
The robot's zero point data is incorrect	The zero point data has been lost unexpectedly, or a physical impact resulting in zero point offset	Contact technical support for calibration. ⚠: The robot has completed zero point calibration before leaving the factory. Please do not calibrate the joints during normal use.

NOTE

If you encounter any other abnormal issues during the use of the robot, please contact technical support promptly.

5. Maintenance

Maintenance and repairing must be performed in compliance with all safety instructions in this document.

The purpose of maintenance and repairing is to ensure that the system is kept operational, or to return the system to an operation state in the event of a fault. Repairing includes troubleshooting in addition to the actual repair itself.

Repairing must be performed by an authorized system integrator or Dobot staff.

Robots or parts returned to Dobot should follow the instructions below:

- Remove all parts that do not belong to Dobot.
- Before returning to Dobot, please make a backup copy of the files. Dobot will not be responsible for the loss of programs, data or files stored in robot.
- The robot should be restored to its unpacked posture before returning to Dobot.

5.1 Safety instructions

The following safety procedures and warnings must be observed when operating the robot:

NOTICE

- Replace faulty components with new components of the same model or equivalent components approved by Dobot.
- Reactivate all deactivated safety measures immediately after completing maintenance work.
- Record all repairs and save them in the technical document associated with the robot system.
- Take necessary precautions to prevent others from re-powering on the robot during maintenance.
- Prevent water or dust from entering the interior of the robot.

5.2 Robot maintenance

To ensure the robot maintains high performance over the long term, regular maintenance checks must be conducted. The personnel in charge of the maintenance must develop a maintenance plan and carry out the necessary tasks. The inspection items are listed in the table below.

Period			Inspection item	Inspection details
Daily	3 months	6 months		
√			Robot storage	• Store in a dry, dark room to avoid direct sunlight and rain; • Remove the battery pack if storing for a long period.
√			Robot appearance	• Check if the body is clean, undamaged, or deformed; • Check if the camera and radar are obstructed by dirt or debris.
√			Robot cleaning	• Wipe the robot with a dry and clean soft cloth; • Check if the camera and radar are clean and dry.
√			Joint	• Check that there is no abnormal noise or vibration from the joints when the robot is running. • After running, touch the joint housing to check for excessive heat.
√			Battery pack	• Check if the battery pack is securely installed without any looseness; • Check if no visible damage or swelling on the battery pack casing; • Check if the power indicator light displaying normally; • Check if the battery pack is sufficiently charged (when not in use for a long time, it is recommended to maintain a 50% charge and recharge every three months).
√			Remote controller	Check if the buttons and joystick of the remote controller are functioning properly;
		√	E-stop button	Press the E-stop button during the robot's movement to observe if the robot performs an emergency brake.

