

N2 Humanoid Robot Delivery Document

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I. Robot Delivery Details

Name	Description	Quantity
Robot Body	Humanoid Robot Body	*1
Lifting Ring	Used to connect the robot body to the lifting rope	*2
Lifting rope	Used for robot body lifting	*1
Toolkit	Used for robot-related maintenance	*1
Battery	Used for robot body power supply	*1
Battery charging compartment	Used for robot battery charging	*1
Controller + Receiver	Used for robot body control	*1
Product Manual	Basic Operation Instructions for Robot	*1
Warranty Card	For subsequent warranty of the robot	*1
SDK Files + Documentation	Software Development Kit	*1
URDF File	Standardized Robot Description Format	*1

Robot IP information is as follows:

Board	User	IP	Password
Motion control board: RK3588S	noetix	192.168.55.102	n
	noetix	192.168.55.101	n2

Computing board: Jetson orin nano (additionally equipped in the education version)			
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[!CAUTION]

During the operation of the robot's motion control program, please do not connect to the robot's motion control board (RK3588S) via SSH, as this will occupy EtherCAT bandwidth and cause the robot's motion control program to be interrupted, causing the robot to immediately collapse to the ground, which can easily cause damage.

For SSH connection, be sure to have the robot lying on the ground or suspended on the protective frame to enter a disabled state. During the connection process, make sure there are no objects placed around the robot and that people maintain a safe distance from the robot to avoid collisions caused by accidental movements.

Our company is not responsible for any losses caused by failure to perform SSH connection according to the above requirements!!!

2. Robot Unboxing Video

Lifting start:

Prone start:

3. Robot Software Development SDK Source Code

5. Robot Controller Instructions

Various modes of the robot

Mode	Function	Remarks (the following buttons are based on the Australian Jia Shi gamepad)

The red arrow represents the emergency stop operation in an emergency.

Usage Flow

Remove the robot from the packaging box. It is recommended to hang the robot on a shelf to start it, or you can let the robot lie/lie on the ground to start it.

Install the battery

Installing the battery: Press and hold the silver buckle button on the left side of the robot (press it all the way in), and push the battery in at the same time.

(The same applies to removing the battery)

Precautions: Pay attention to the battery direction when placing the battery, **the button is on the top and the indicator light is on the bottom**

Install the receiver

Insert the USB receiver into any USB port on the back of the robot, making sure it is not loosely connected.

Start the machine

After the battery is inserted into the back of the robot, **first short press** the power button on the battery, wait for the indicator light to light up, and then **long press the button**. At this time, there will be a flowing light effect, and you will hear a "beep" sound. The indicator lights on all parts of the robot light up, indicating that the machine is turned on.

Pair the Controller

If the controller and receiver are paired for the first time, you need to press and hold the home button on the controller when the robot is turned on and the receiver has been inserted, until the indicator light is always on. At this time, release the button and the indicator light will flash quickly to enter the pairing mode. When the controller vibrates and the three indicator lights below are always on, it means the pairing is successful.

After pairing, you can directly press the home button to directly memorize the pairing in the future.

The following operations take the Aojia Lion controller as an example

Enter walking mode

After the robot is turned on, wait for about 10 seconds and it will automatically enter the enable mode (damping mode)

After the robot enters the enable mode, make the robot stand upright on the ground, and press LB and - to put the robot into the ready mode

Observe whether the robot has slightly bent legs. After it appears, press LB and X to enter the walking mode. If the legs are not bent, repeat the previous step

Note: The robot cannot walk on stairs or obstacles higher than 5cm, and cannot walk on slopes greater than 25 degrees (there is a risk of falling)

Please see the button function chart below for subsequent operations

Shutdown process

After use, you need to hold the robot and press LB and - to return the robot to the ready mode. At this time, the robot loses its ability to stand independently and needs to be held by someone.

After lifting or laying the robot flat (prone), press the + key to put the robot into disabled mode

Then long press the motor switch, turn off the power, and remove the battery.

Basic function controller button table

Key position	Prerequisites	Function	Remarks
“+”	Enable/disable mode	Enable and disable	
LB & "-"	Enabled Mode	Preparation Mode	At this time, you cannot balance yourself and need to stand manually.
LB & X	Preparation Mode	Walking Mode	Pushing the stick can maintain balance
LB & Y	Walking Mode	Running Mode	Please reserve enough space and stopping lead
Left stick	Walk/Run Mode	Forward and backward	
Right stick	Walk/Run Mode	Turn left and right	
A		Shake hands	

	Walking Mode		
B	Walking Mode	Wave	
Y	Walking Mode	Cheers	

1. Self-developed gamepad



Control the robot with a remote control
Walking mode
The connector needs to be inserted into the USB port at the back of the robot

Power switch
Swipe left to turn on the remote control

Power indicator light
Flashing: Identify and connect to the robot
Constant on: Successful connection and display of battery power

The S1 button on the left:
Robot start/stop
After the robot is powered on and turned on, it enters the enabled state by default

The F1 button on the right side:
Stop all programs. (In this state, human assistance is needed. Help the robot stand)

Joystick
Push vertically to control the robot to move forward and backward
Push laterally to control the robot to turn left or right

Up and down trigger buttons
Pull the trigger: Not in use yet
Pull the trigger: Exit the current mode and return to the joint to power on

Zero position state
Robot joint enabling/disabling

Emergency stop button
Use only in emergency situations
Robot electronic emergency stop, joint power off:
Press again and the joint will be electrified

Walking mode

Running mode(Needs to switch in walking mode)

Cheers


Wave hand

Shake hands

Stop hands movements

N2

2. Australian Lion gamepad



Control the robot with a remote control

Press once to establish a connection with the robot
Indicator light, flashing: Identify and connect the robot
The lower three lights remain constantly on: Connection successful

Key combination, single press the robot start/close, the robot will enter the enable state by default after starting

The + key enables/disables the robot joint

Left rocker, push up and down to control the robot forward and backward

Right rocker, left and right push control the robot to move left and right

Walking mode

Running mode(Need to switch in walking mode)

Cheers

Wave hand

Shake hands

End up hands movements

N2

VI. Robot Operation Video

1. Self-developed gamepad

1. Australian Lion gamepad

3. Teaching function (currently limited to Australian Lion gamepad)

Note: The normal switching logic should be action 1 -> switch walking strategy (LB + X) -> action 2

The following modes should be performed under **Walking Mode**

Key position	Prerequisites	Function	Remarks
RB & Y	Walking Mode	Enter teaching mode	
RB & B	Teaching mode	End teaching	
RB & X	End teaching	Save teaching	Next, press [A, B, X, Y] to save to the corresponding buttons
RB & LB & [A, B, X, Y]	Walking Mode	Play the saved teaching action under the corresponding button	Be sure to switch to walking mode after playing

4. Dance function (currently only available for Ozcan Lion Controller)

Key position	Prerequisites	Function	Remarks
LB & A	Walking Mode	Enter dance mode	
X	Dance Mode	Play long version of Yingge dance	
Y	Dance Mode	Play short version of Yingge dance	

Note:

- Reserve a sufficiently large activity space (6*6m), and the road surface must be flat and non-slip!!!
- Battery level is 2 bars or above
- Do not pull the robot hard during the dance, and do not let the robot receive external force interference
- You can interrupt the dance by switching to walking mode when approaching standing, but do not switch to walking mode during bending movements in the dance

PS: Please avoid using it on smooth and uneven ground. There should be enough space to perform the movements when using dance. Damage to the robot caused by the operating environment and operating errors is not covered by the warranty. If you need to test the Yingge dance after receiving the robot, the first test requires human protection, tether (only for protection and does not apply additional force to the lifting rope), and leave enough demonstration space so that you can clearly understand the approximate use space before proceeding with subsequent demonstrations. If there is a problem in the first test, please contact customer service personnel in time.

5. Voice function (only for voice version and use after installing voice module)

Please contact market sales for installing voice module

Wake-up word: Little Rascal After waking up the voice conversation function, you can have a conversation. The conversation function may be delayed due to the influence of network signals in different locations.

Precautions: The voice module uses the operator's IoT SIM card, which provides one year of traffic service by default from the date of activation. Subsequent use requires customers to purchase data traffic service by themselves. Our company provides the SIM card number and necessary technical support. The customer is responsible for the consequences caused by SIM card damage, number forgetting or illegal use. Our company is exempt from liability for network connection failures caused by operators during use.

VII. URDF File

Please log in to the customer service platform to download

VIII. Official website link

- <https://noetixrobotics.com/>

IX. Contact information

- FAE Technical Support Manager: Tang Ziyang
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