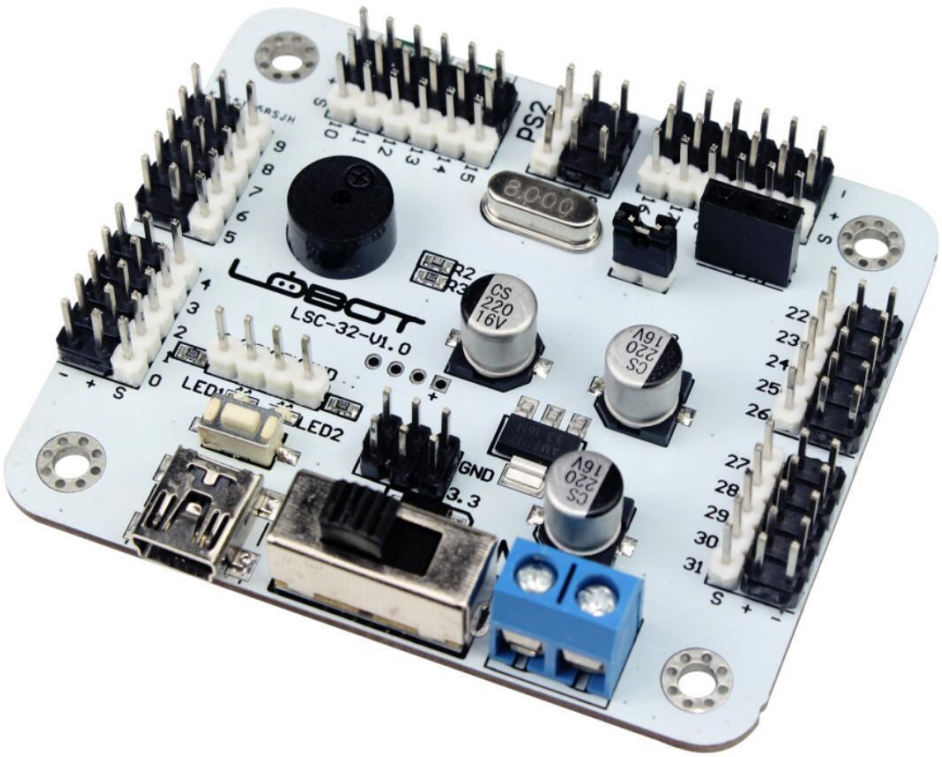
LSC-32 Servo Controller

User Manual



Warm Tips

Thank you for purchasing this item. For your better use, please read the following instructions first.

1.10-15th servo interfaces of this LSC-32 servo controller have over-current protection which is already shown in the picture below. Please give priority to these interfaces when connecting servos.

2.Please first fix nylon column or copper column on the servo controller to prevent it from burning out during the debugging process, because mistakes happen much more easily if the bottom of the controller touches the metal objects.

3.Please connect the positive and negative wires to the servo controller first before you connect battery to the servo controller, and then connect the battery to the wire interface, and finally turn on the switch, it is worth noting that positive and negative wires contacting can cause a short circuit. Do not expose the wire out of the controller when it is wired.

4.If the servo controller is not connected to the power supply and only USB, the buzzer will make sound of beep(DIDI), so be sure to connect the wire to the power supply.

5.The servo controller module is not intended for young children! Younger users should use this module only under adult supervision.

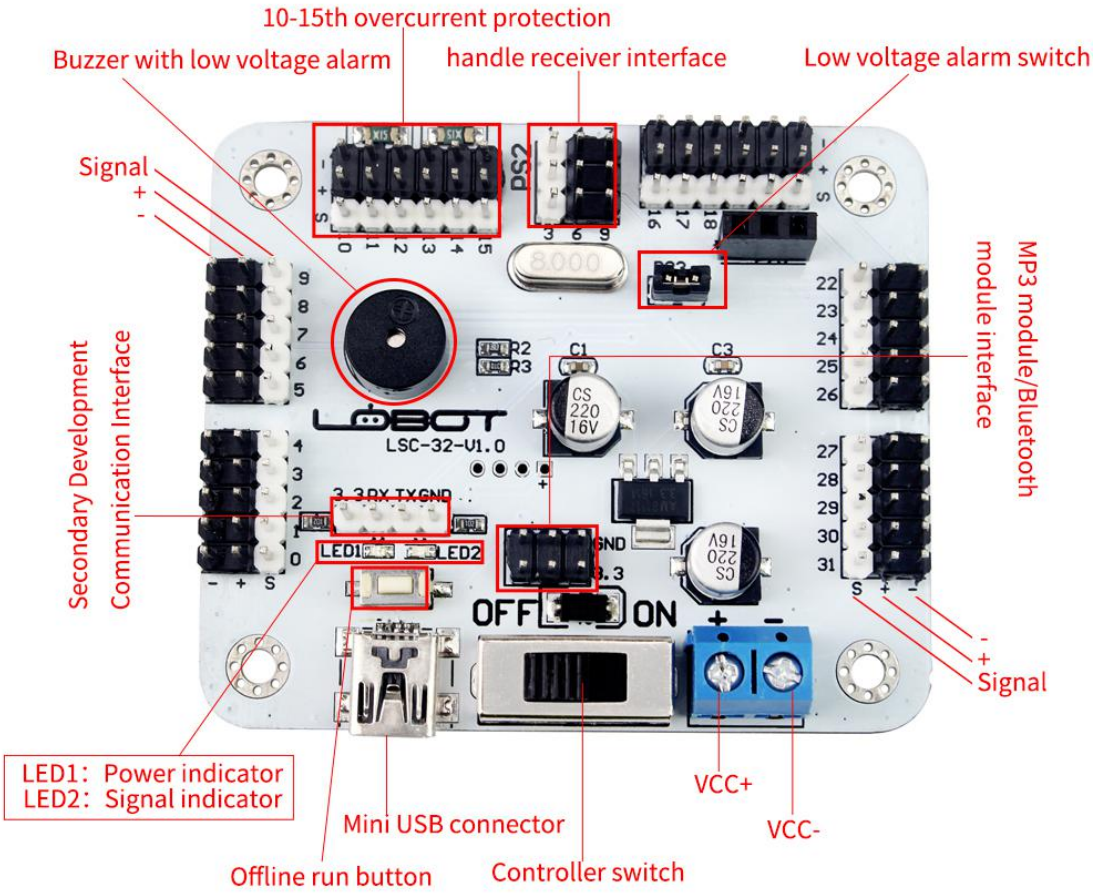
Catalog

Introduction to the servo controller

1. Servo controller interface

Outline area size	2.56in*2.17in
Mounting hole size	2.13in*1.73in
Net weight	27grams
USB control	support
Wireless handle control	support
The maximum of the number of controlling servos	32
Memory	16m
Current-limiting protection	support
External single-chip(secondary development)	support
Low voltage alarm	support
Switch built-in	support
Over-current protection	support
External Bluetooth module	support
External MP3 module	support

The instruction of servo controller are illustrated below



2. Servo controller power supply

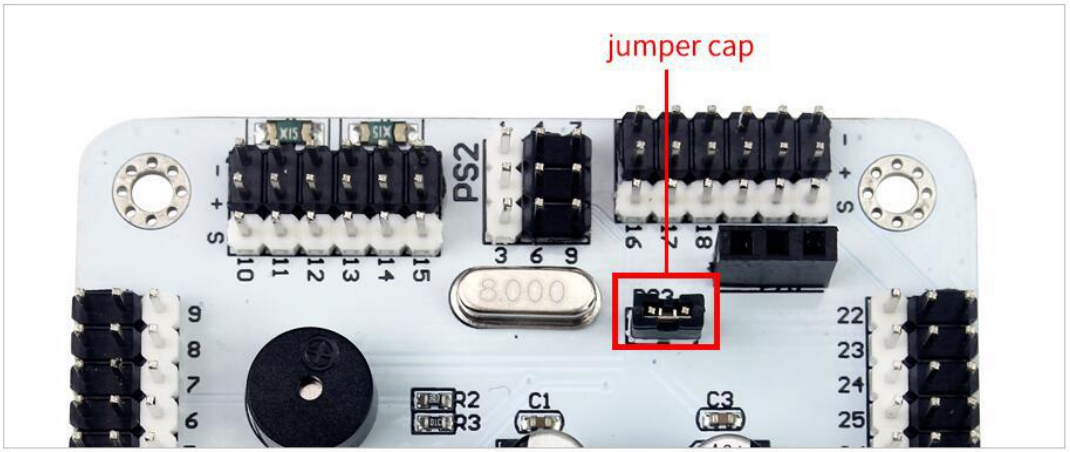
The VCC + support voltage range from 5V to 9V.
The power supply voltage depends on the voltage of the controlled servo. Both must be consistent.
Tips: Be careful of the power short circuit in the process of power connection.

3. Low voltage alarm

If the power supply is below 5V, the servo controller will make sound of beep(DIDI), please replace the battery or charge the battery in time.

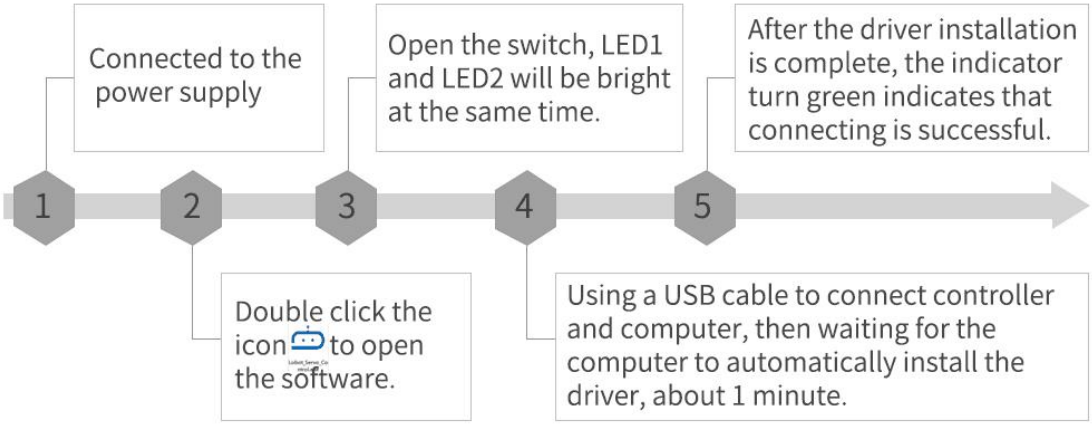
Note: 1. Make sure that the jumper cap is properly inserted on the controller

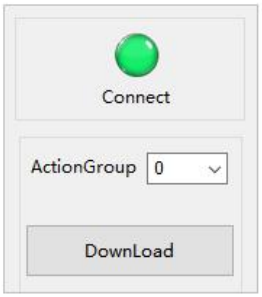
2. If you directly charge the battery, please turn off the controller when battery is charging.



4. Driver installation

When the servo controller is connected to the computer for the first time, the computer will automatically install the driver.





(PS: If the power supply is connected with controller, the controller still give an alarm, please refer to "3. Low voltage alarm")

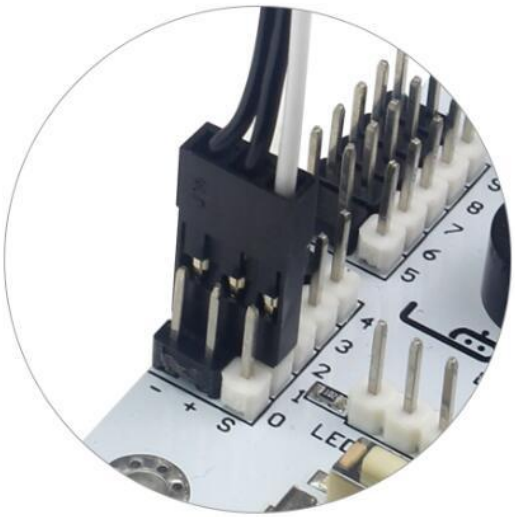
Quick operation

1. Start up PC software

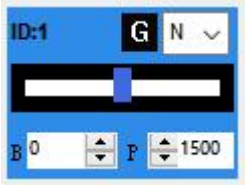
Double click the icon and open the software.

2、Single servo debugging

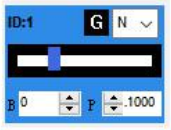
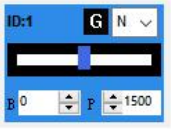
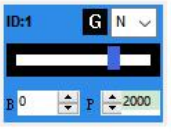
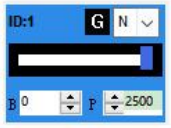
(1)when servo controller is connected to the computer, the interface indicator turn green indicates that connecting is successful.
(2)Connected to the power supply. Make sure your power supply is not lower than 5V. (Consistent with the operating voltage of the servo you control)
(3)Connect the servo to the No. 1 control port. Please do not insert the wrong line.



(4)Pull the No. 1 slider
Pull the slider, the servo will rotate as the slider moves.



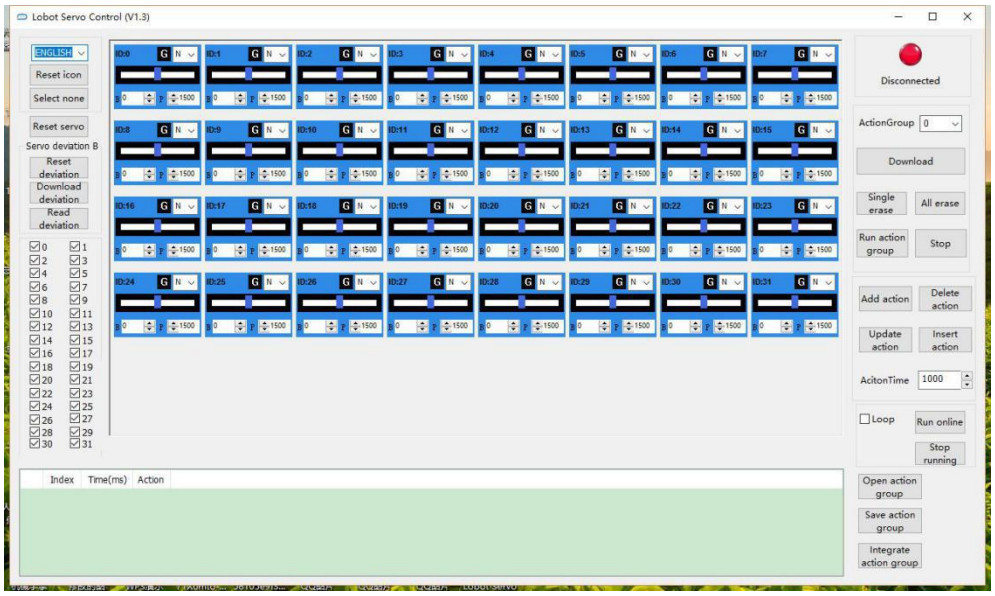
(5)Place the slider to the position of 500, 1000, 1500, 2000, and 2500 respectively and add actions in turn.

1		500	2		1000
3		1500	4		2000
5		2500			

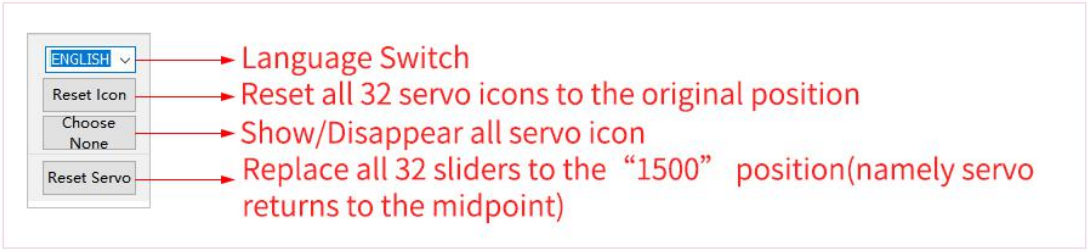
(6)Click “Run Online” button and observe the rotation effect of servo.
(7)Click “Save Action Group” to save the action group you edited and name the file name.
(8)Restart the software, then click “Open Action Group” to open the file you just saved.

Introduction to the PC software interface

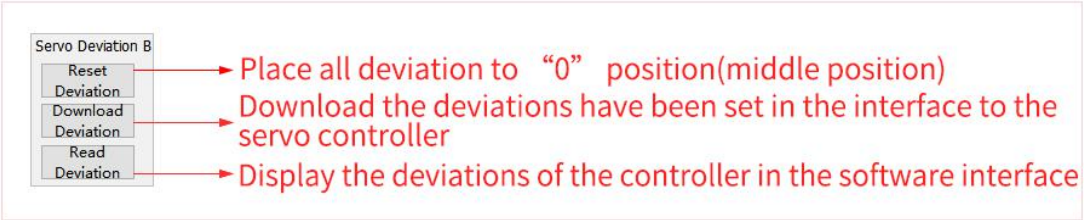
The global window of the PC software



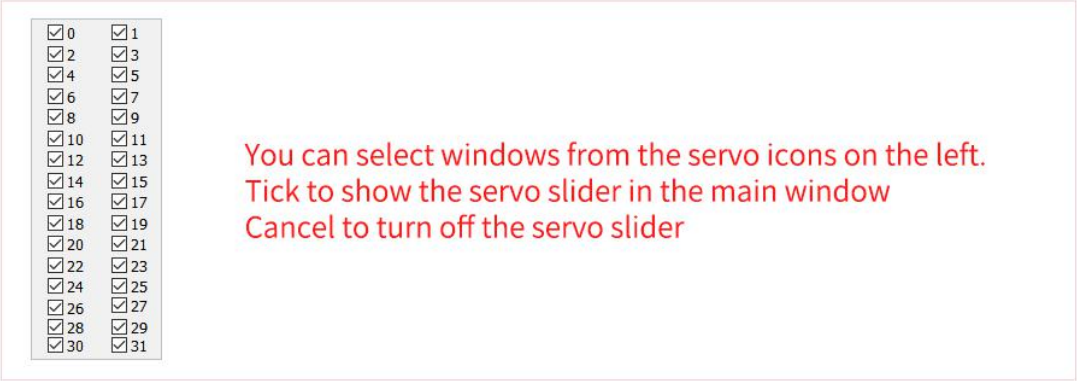
1. Global Operation Window



2、Deviation Operation Window



3. Servo Icon Selection Window



4. The Introduction of the Servo Window function

The servo slider can be free to drag (the range is 500-2500). The P value will change as the slider moves, and it can visually show the rotation position of the servo at this time.

Because some of the installation deviations will happen in the process of robot production. sometimes we need to use the function of “Deviation Adjustment” to make some fine-tuning. B represents servo deviation which ranges from 100~100.

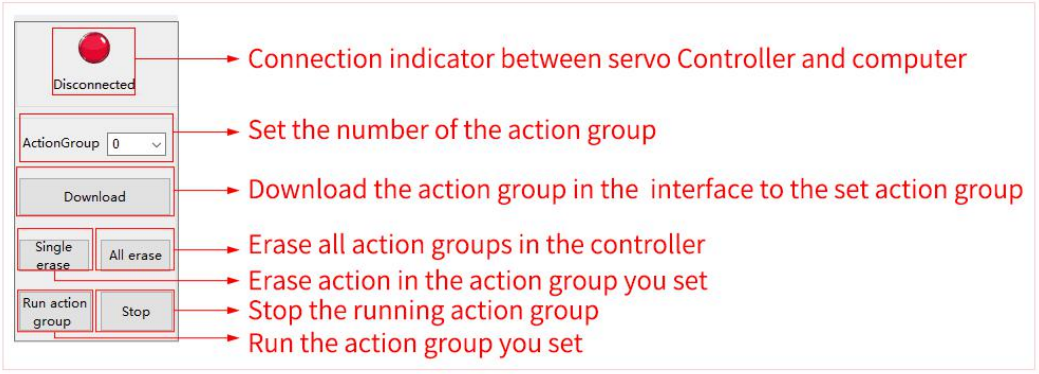
When the deviation of each servo is adjusted, click the "Download Deviation" button, then the all deviations will be downloaded to the controller. If you want to modify the deviation later, please click on the "Read Deviation" button, the deviation will automatically show in the interface.

5. The introduction of Action Date Display Area

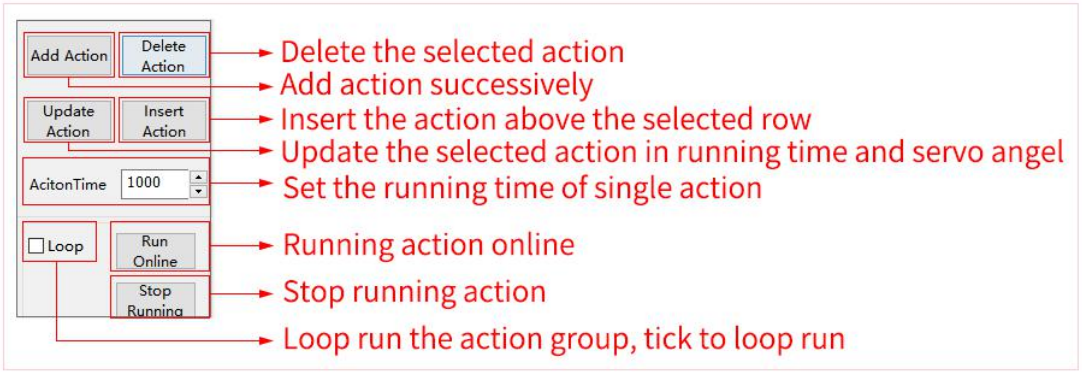
Index	Time(ms)	Action
1	1000	#0 P1500 #1 P1500 #2 P1500 #3 P1500 #4 P1500 #5 P1500 #6 P1500 #7 P1500 #8 P1500 #9 P1500 #10 P1500 #11 P1500 #12 P1500 #13 P1500 #14 P1500 #15 P1500 #16
2	1000	#0 P1500 #1 P1500 #2 P1500 #3 P1500 #4 P1500 #5 P1500 #6 P1500 #7 P1500 #8 P1500 #9 P1500 #10 P1500 #11 P1500 #12 P1500 #13 P1500 #14 P1500 #15 P1500 #16
3	1000	#0 P1500 #1 P1500 #2 P1500 #3 P1500 #4 P1500 #5 P1500 #6 P1500 #7 P1500 #8 P1500 #9 P1500 #10 P1500 #11 P1500 #12 P1500 #13 P1500 #14 P1500 #15 P1500 #16

# Indicates the number of the servo, P indicates the position of the servo, and T indicates the time that the servo is running to that position.

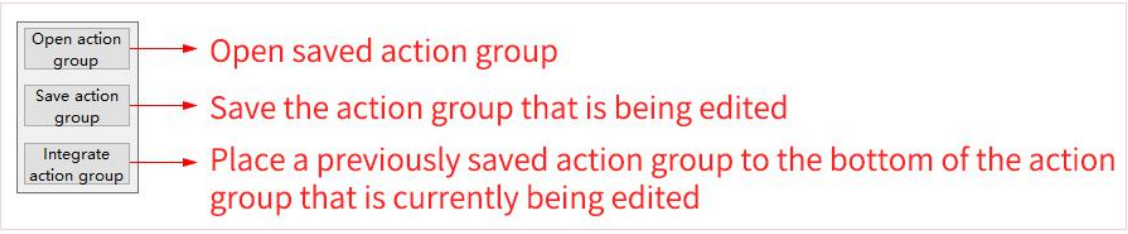
6. Download and invoke action group window



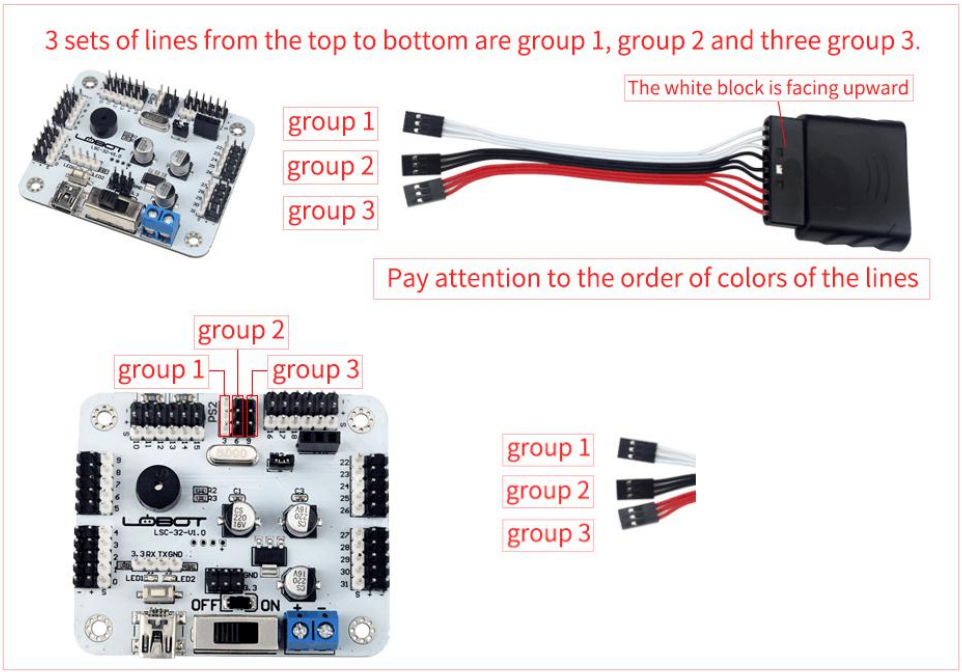
7. Online action debugging window



8. File operation window

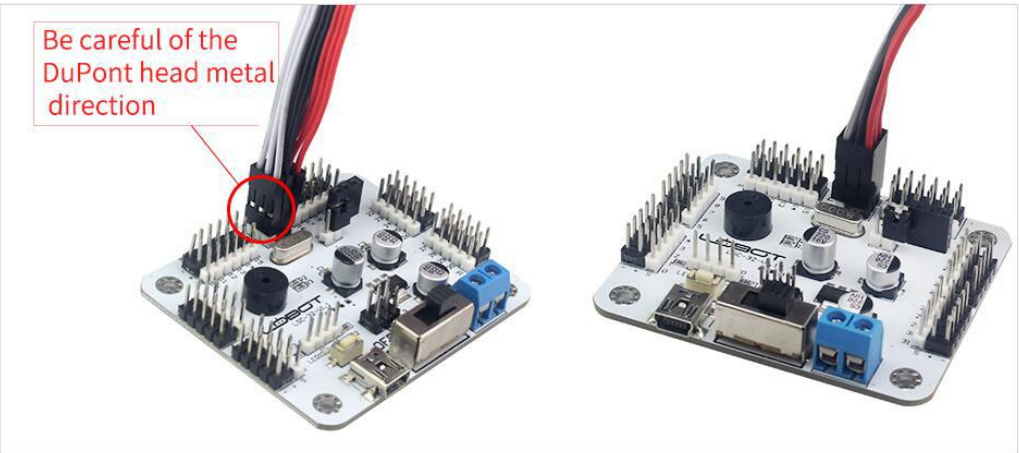


How to connect the handle receiver to the servo controller



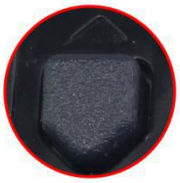
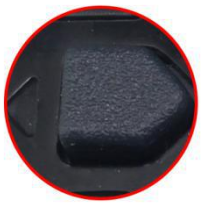
The description of wireless handle interface(9P line interface)

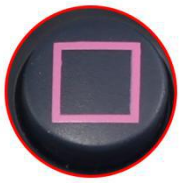
(The receiver number 1-9 with the motherboard 1-9 need one by one correspondence, and it can work effectively), the receiver can work properly only if the orientation of DuPont metal heads of three groups of DuPont line are consistent, as shown below.



The handle requires 2 AAA batteries(self-provided), Open the power switch of the handle, you can run the action group saved by upper computer software.

Wireless handle decode table

	Description	Comments
	Forced to stop current action group running and run the 0th action group once	
 up	Press to keep running group 1st , release to run 0th action group once	
 down	Press to keep running 2nd action group, release to run 0th action group once	
 left	Press to keep running 3rd action group, release to run 3rd action group once	
 right	Press to keep running 4th action group, release to run 4th action group once	

	Run 5th action group once	
	Run 6th action group once	
	运行第 **7** 组动作组 **1** 次 Run 7th action group once	
	Run 8th action group once	
 L1	Run 9th action group once	
	Press to keep running 10th action group, release to run 10th action group once	

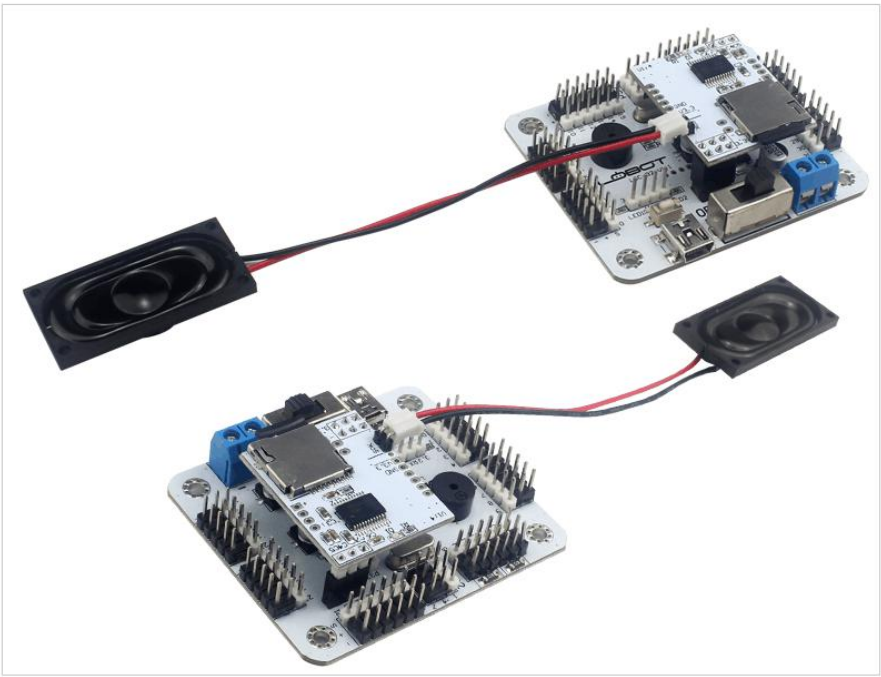
R1		
 **L2**	Run 11th action group once	
 **R2**	Press to keep running 12th action group, release to run 12th action group once	
	Run 13th action group once	Press the select button first, then press the △
	Run 14th action group once	Press the select button first, then press the ×
	Run 15th action group once	Press the select button first, then press the □
	Run 16th action group once	Press the select button first, then press the **O**
 **SELECT+L1**	Run 17th action group once	Press the select button first, then press the **L1**
 **SELECT+R1**	Run 18th action group once	Press the select button first, then press the **R1**

 **SELECT+L2**	Run 19th action group once	Press the select button first, then press the **L2**
 **SELECT+R2**	Run 20th action group once	Press the select button first, then press the **R2**

Warm Tips: The mode keys and joysticks are not set up the function, do not press the these buttons otherwise it is possible to make mistakes.

How to connect the MP3 module/Bluetooth module to the servo controller

The connection method between the MP3 module and the controller is the same as the connection of the Bluetooth module to the controller .
The following is an example of how to connect MP3 module to the controller in action.

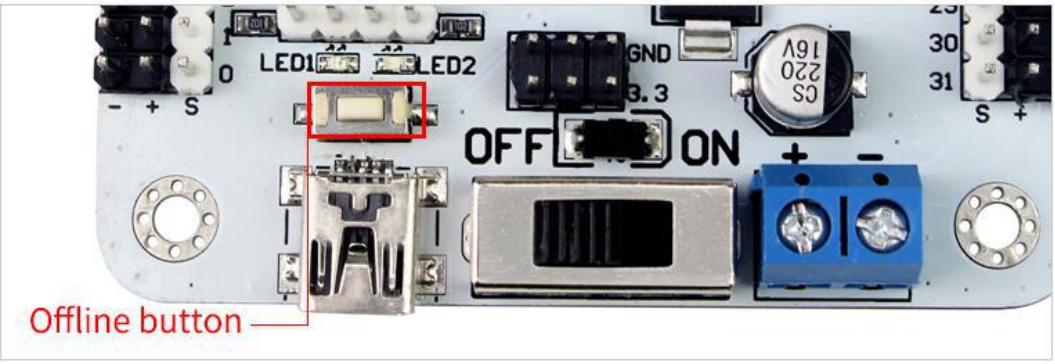


About offline running

Offline running means: disconnected from the computer and the robot works automatically

1. Download the action file that needs to be run offline to No.100 action group;

2. Press the flexible button on the controller.

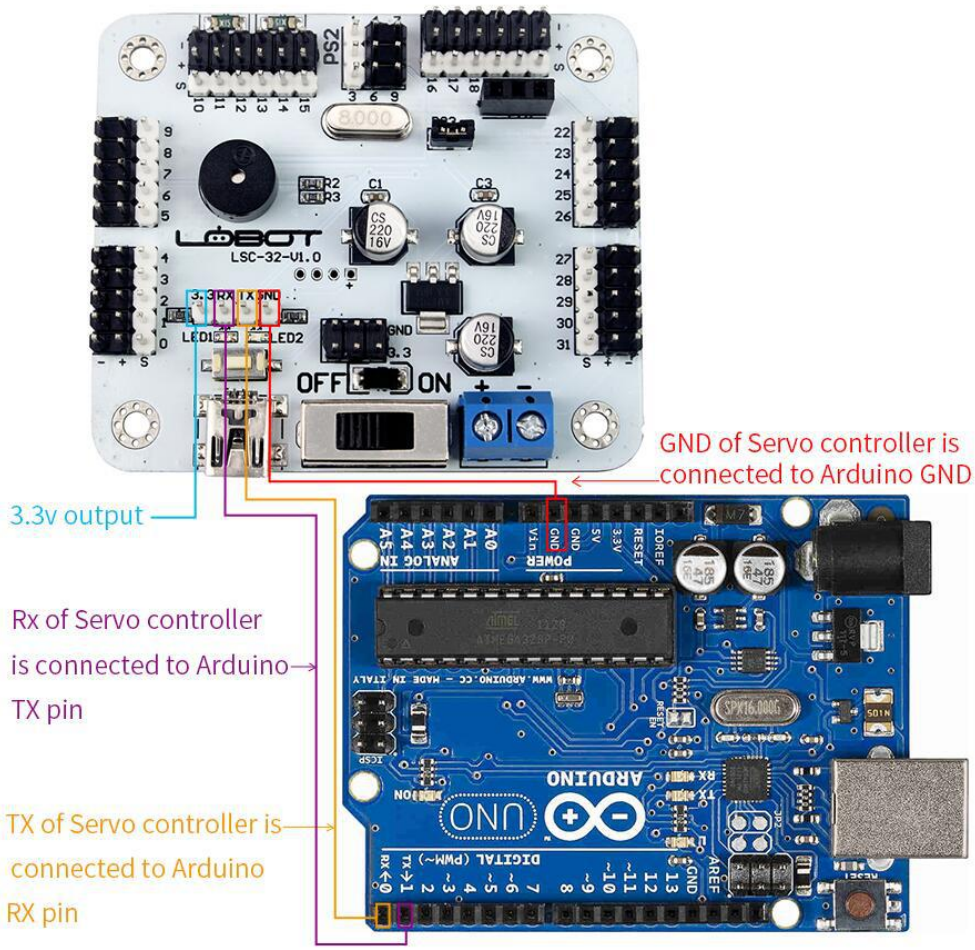


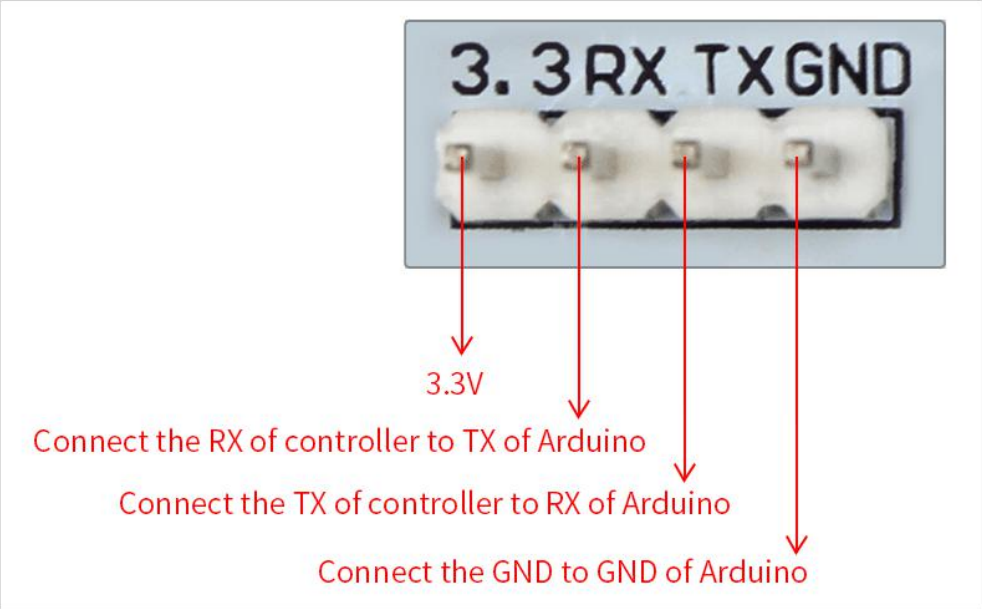
3. Press once to run offline once; press and hold for 3 seconds (until the blue light flashes), it will be running all the time.

4. Restart the controller to remove the cycle run.

Advanced Control(Serial Port Communication，Secondary Development)

The communication wiring diagram of connecting 32-channal servo controller to external Arduino .





Note: Please read the <secondary development documentation>
for a full understanding on how to use the servo control secondary development instruction.

We hope that you can carefully read the instructions and watch the video instruction so that you can have a good command of 32 channel servo controller.

Technical Support

If there is anything that you do not understand, please check the instructions or the accompanying video tutorial, if the problem still can not be solved, please feel free to contact us by email at support@lewansoul.com

Please visit the following link or scan the QR code to get related instructions and video tutorial.

	Get instructions	Get video tutorial
Link	http://bit.ly/2rJshh6	http://bit.ly/2t4MNwS
QR code		