

# **Lesson 1 PS2 Handle Control**

## 1. Preparation

Step 1: Insert the handle receiver into the control board, as the figure shown below:



Step 2: Prepare two AAA batteries. Take off the back cover of the handle and install the batteries into the battery slot.



Please pay attention to the positive and negative poles.



### 2. Device Connection

Step 1: Switch on xArm ESP32.

**Step 2:** Turn on the PS2 handle. At this time, two LED lights (red and green) of the handle will flash simultaneously.

**Step 3:** Wait for a few seconds. xArm ESP32 will automatically pair with the handle. Two LED lights will keep on after pairing .

(If only the green light or the red light lights up after switching on, you can press "MODE" button.)

**Step 4:** If fail to connect, please turn off the robotic arm and handle first, and then repeat the previous steps to operate.

Sleep mode: If do not connect the handle to the robotic arm in 30 seconds after switching on the handle, or have no operation within 5 minutes after connection, the handle will enter sleep mode. If want to restart the handle, you can press "START" button.

#### 3. Mode Introduction

There are two modes for handle control: action group mode and single servo mode. The handle defaults to action group mode after connection.

Action Group Mode: Press buttons to call corresponding action groups

(For users who have purchased unassembled robotic arm, please note that action group file needs to be downloaded into the controller first. Please view the related tutorial in folder "1. Getting Ready -> Lesson 5 Action Group Download")

Single Servo Mode: Press the corresponding button to control the rotation of each servo on robotic arm.

Two modes switching method: Press "SELECT" button first without releasing, and then press "START" button. You can release your hand until hearing the prompt sound, which means the robotic arm has been switched from "action group mode" to "single servo mode".

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### 4. Button Instruction

The following list is the button instruction for action group mode:

When using the combination key, you need to hold down "SELECT" first, and then press the corresponding key.

Button	Function
START	Execute No.0 action group (return to initial position) once.
1	Execute No.1 action group once (grip forward 1)
	Execute No.2 action group once (grip forward 2)
↓ ←	Execute No.3 action group (grip down to left ) once
<b>→</b>	Execute No.4 action group (grip down to right ) once
Δ	Execute No.4 action group (grip down to right ) once
×	Execute No.6 action group (grip right to front ) once
	Execute No.7 action group (grip forward to left) once
0	Execute No.8 action group (grip forward to right) once
L1	Execute No.9 action group (grip left to front) once
R1	Execute No.10 action group (grip left to right) once
L2	Execute No.11 action group (grip left to right 45°) once
R2	Execute No.12 action group (grip left to left 45°) once

The following table is the button instruction for single servo mode:

Button	Function	Servo
START	the servo all return to	
	the initial position and	No.1-No.6 servo
	the robotic arm faces	
	upward straightly.	
L2	gripper close	
R2	gripper open	No.1 servo
R1	turn left	
L1	turn right	No.2 servo
	turn forward	
0	turn backward	No.3 servo
Δ	turn forward	
×	turn backward	No.4 servo
<b>†</b>	turn forward	
<b>↓</b>	turn backward	No.5 servo
<b>←</b>	turn left	
<b>→</b>	turn right	No.6 servo