

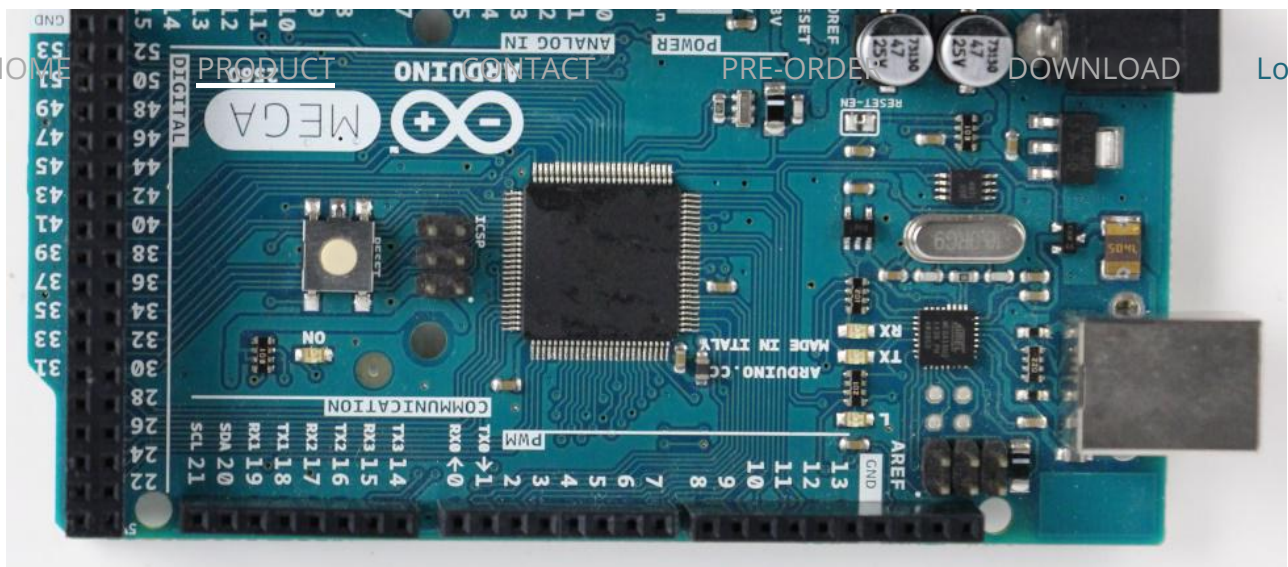
# GETTING STARTED

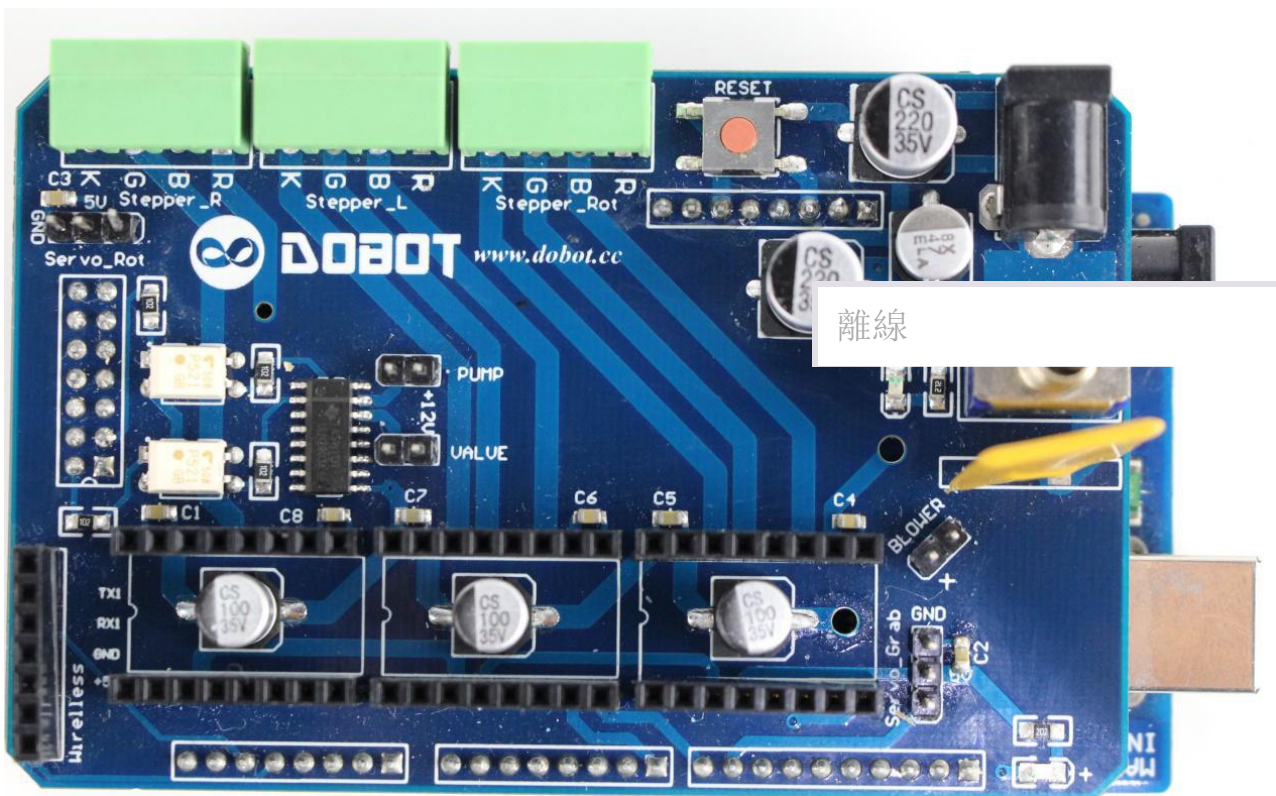
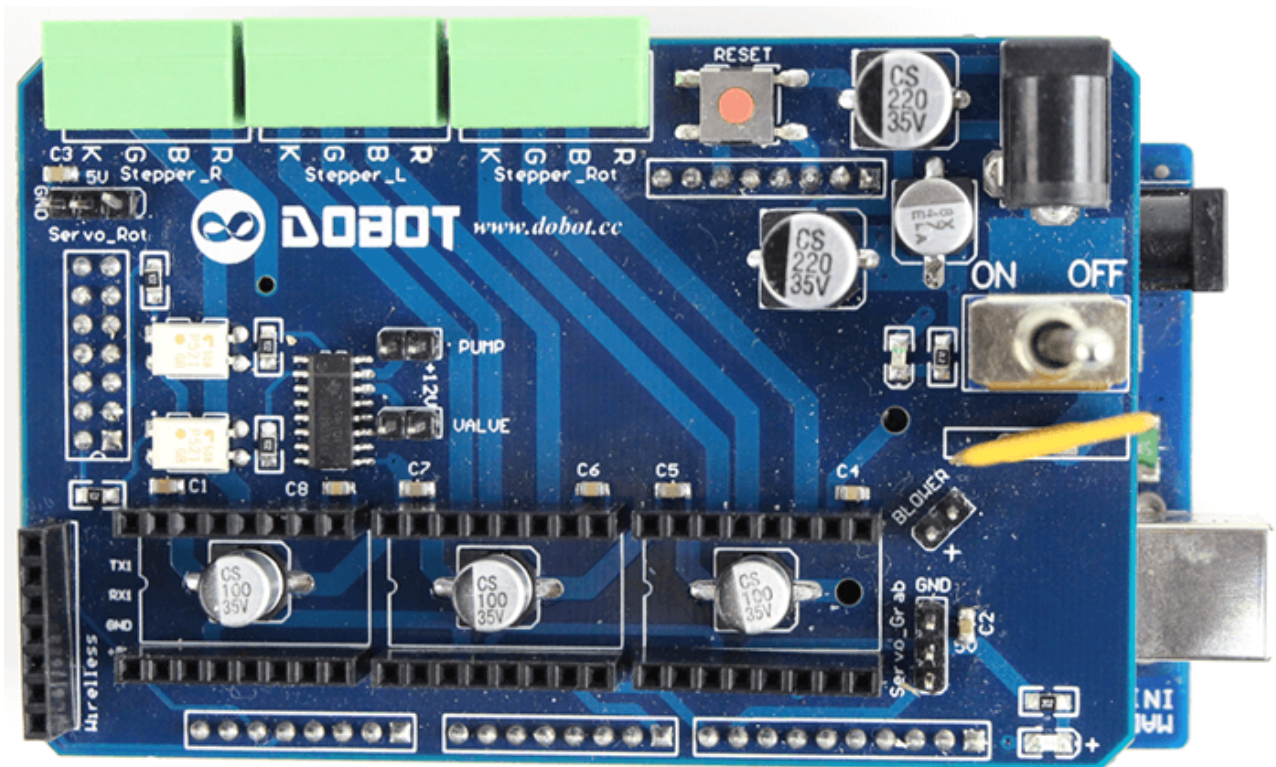
All electronic modules (motor drive module, Bluetooth module, etc.) are not hot-swappable, hot plugging may damage the module.

## STEP 1

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Connect the Dobot shield to Arduino MEGA2560, as shown in the figures below



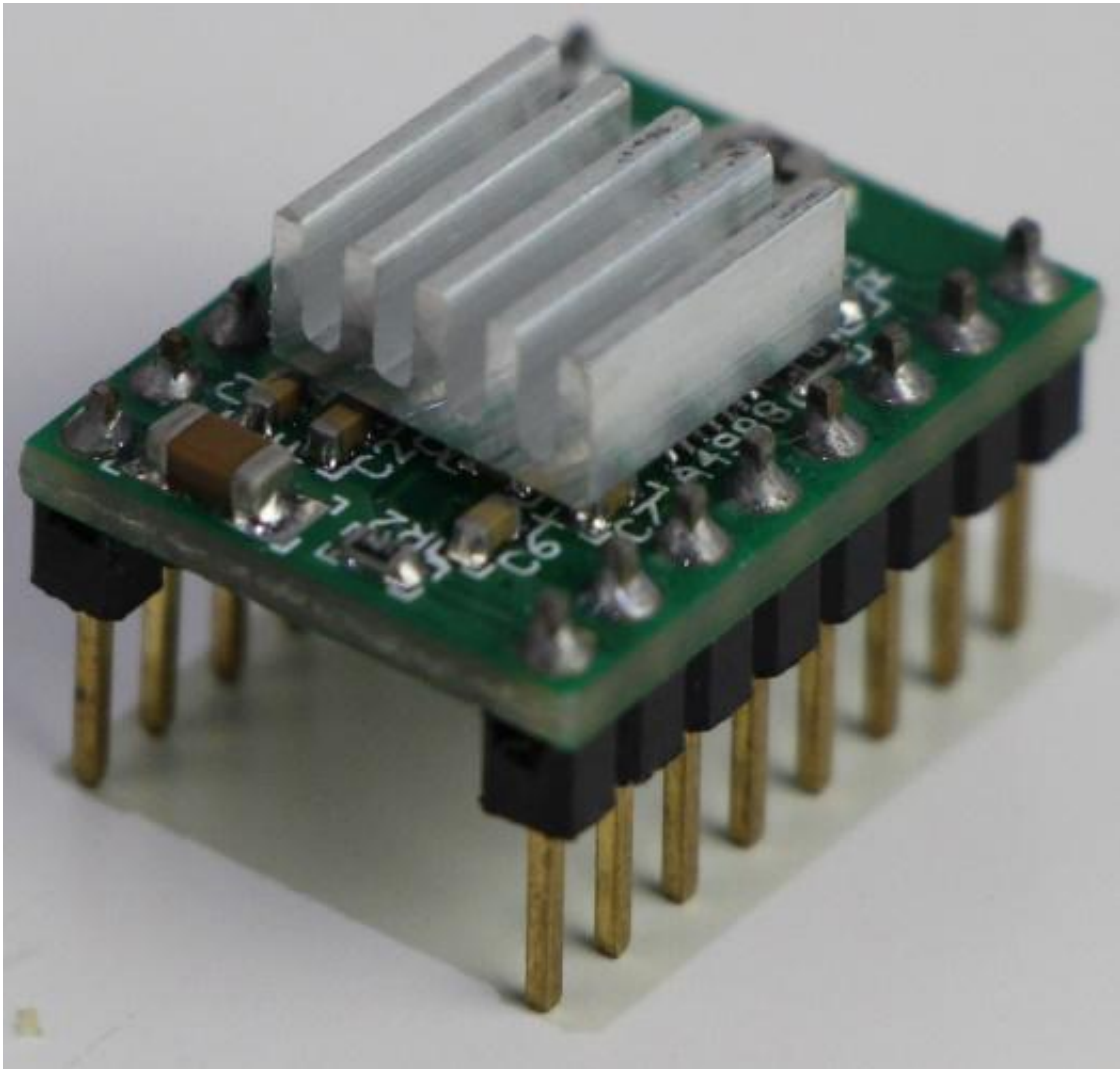


## STEP 2

Insert the motor drive into the corresponding interfaces as shown in the picture above. After insertion, you will get something like in the picture below. Watch out



for the direction of the knob, if you insert it in the opposite direction it will overheat when the power is on.

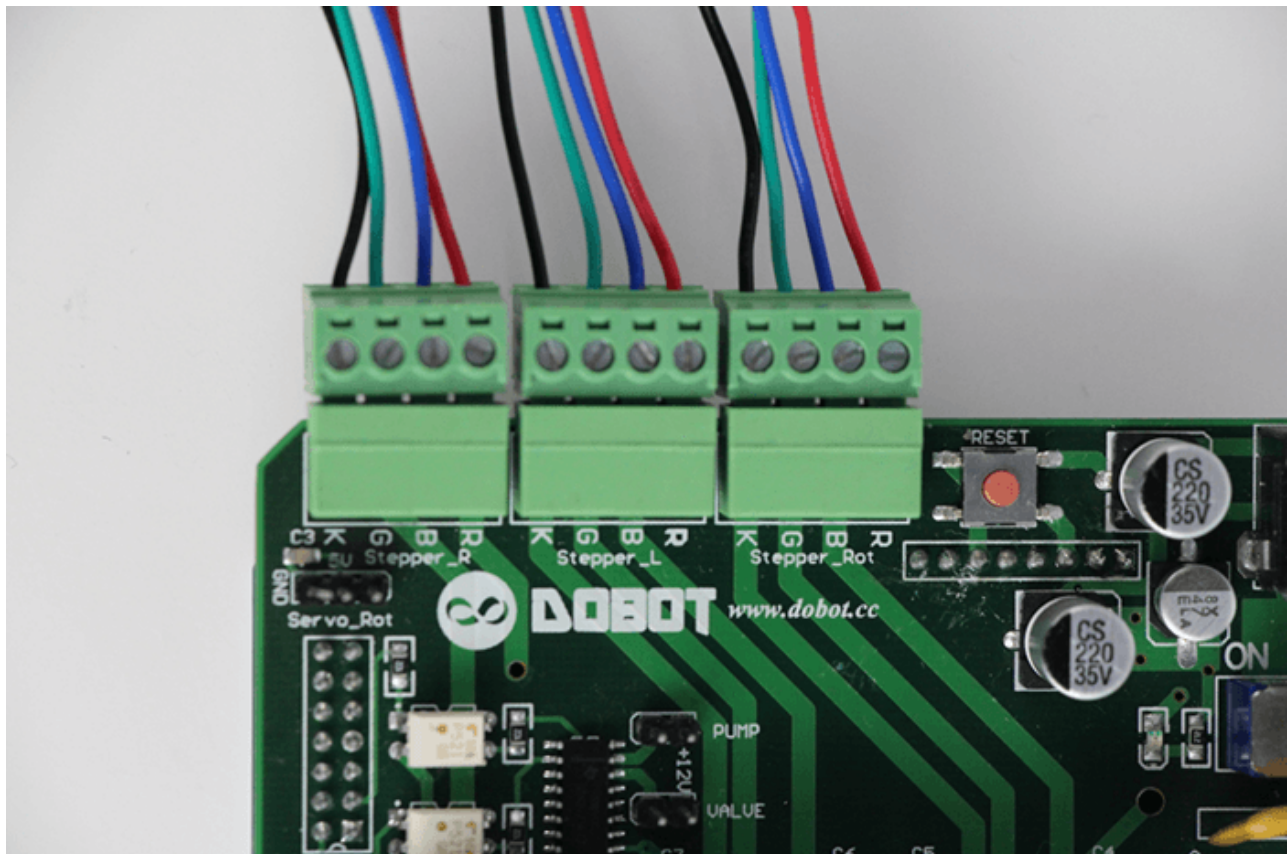


Pic(c) mega2560 + dobot transfer board

## STEP 3

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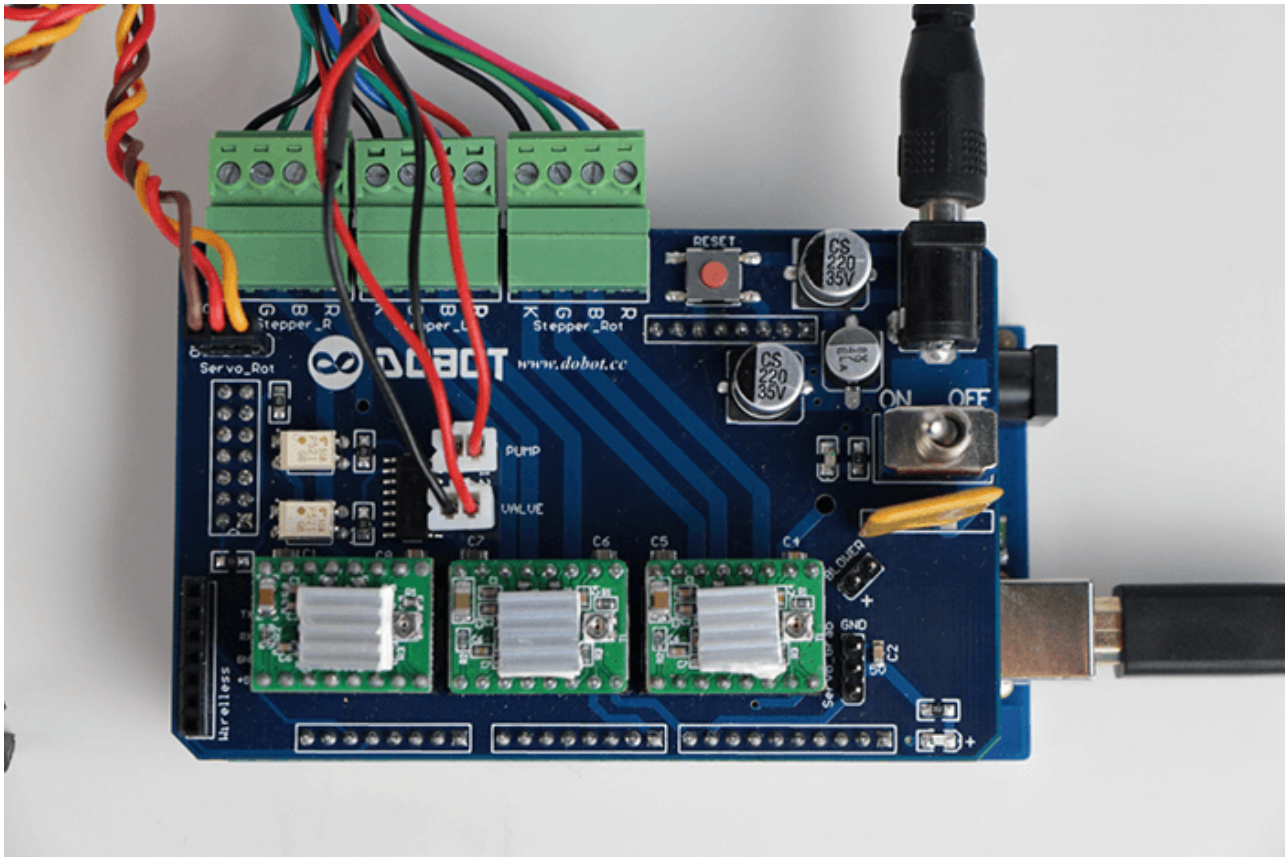
Insert the stepper motor terminals. "Steppter\_R" terminal is for the big arm drive motor, "Stepper\_L" connects to the small arm drive motor, and "Stepper\_Rot" is for the rotation of the motor connected to the chassis. Board silkscreen "RBGK" means to be connected with the motor "red, blue, green,black", respectively. Do NOT randomly switch positions of the four lines as they have been pre-set in the factory.



## STEP 4

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If an effector is needed, you need to install the effector and connect the lines correctly. In all versions of Dobot, we provide an air pump and sucker dish. Here we use the installation of a sucker dish as an example to demonstrate. Insert Pump and Valve, connect the two red lines with +12V, corresponding to the two +12V terminals.



## STEP 5

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Insert the 12V power adapter into the socket shown in Picture 1(c), be aware that you need to connect the power cord to the above Extended Edition terminal, instead of the Arduino MEGA2560 terminal.

## STEP 6

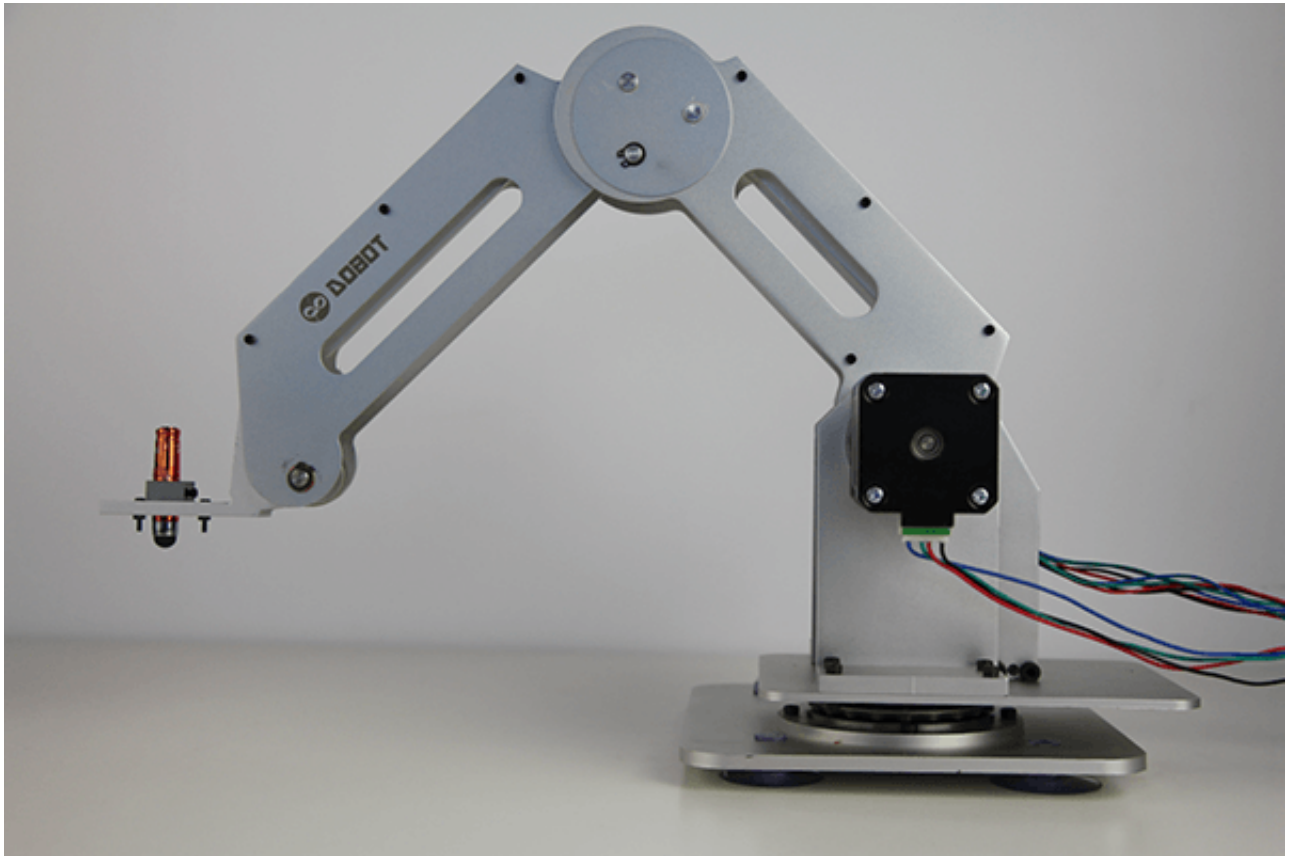
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Move the robotic arm to a proper position, turn on the 12V switch, the signal light should turn red accordingly.

When you turn on the robotic arm or after restart it, the beginning coordinates of the arm will use the High precision single axis tilt angle sensor to automatically reset to its original coordinates. Some of our early versions of Dobot robotic arms may not have the Sensor, and you would need to use Laser protractor to reset manually, see details here. When the arm is at its coordinates, both the big and



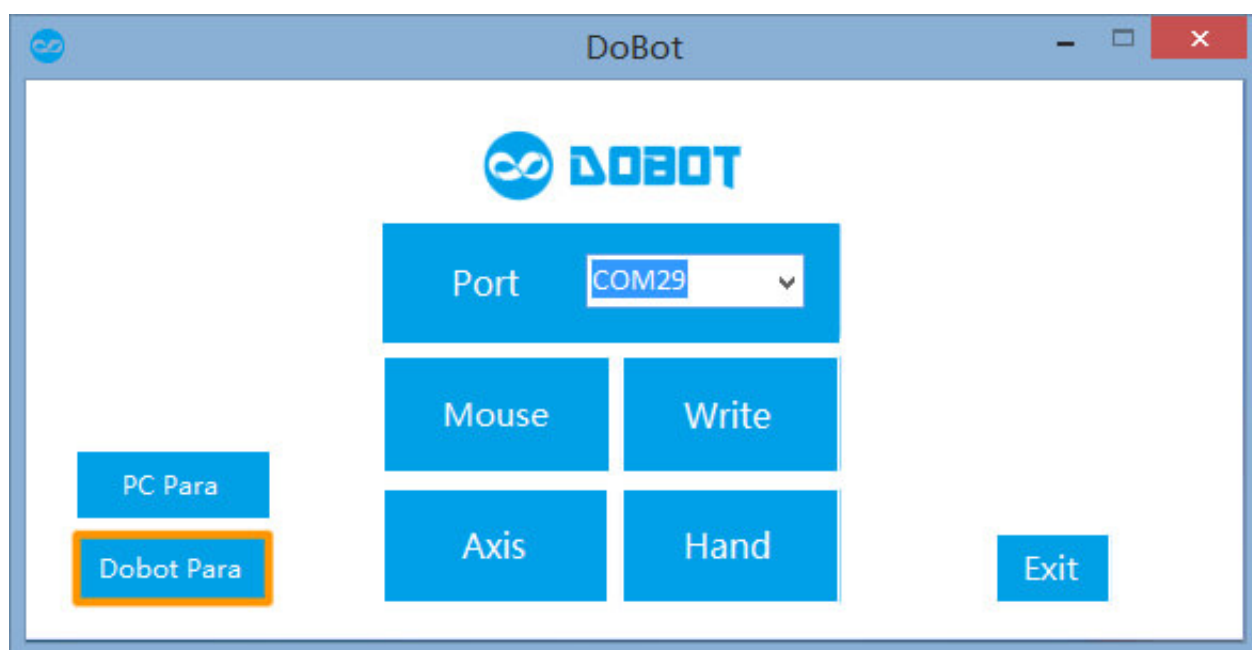
small arms will be at a 45 degree angle on the horizontal direction. Please keep the base level, otherwise the accuracy of the coordinate location will be affected.



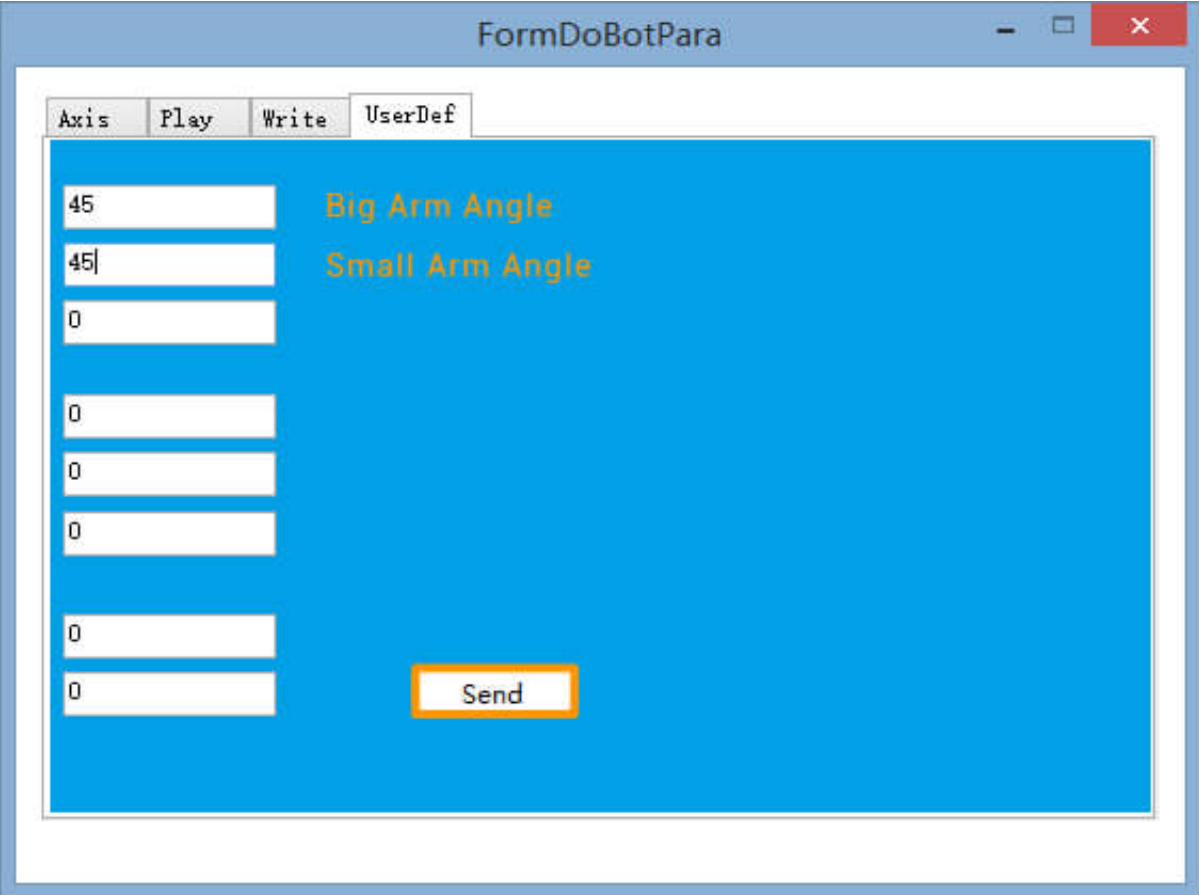


## STEP 7

Run the Dobot.exe in Upper computer folder, click Dobot Para to set the beginning angles.



Based on the angle measurements of the robot in the second chapter, type the beginning angle degrees of the big and small arms you measured previously in the UserDef section (By default, the big and small arms will reset its angles to 45 degree every time it restarts). Then click "Send".



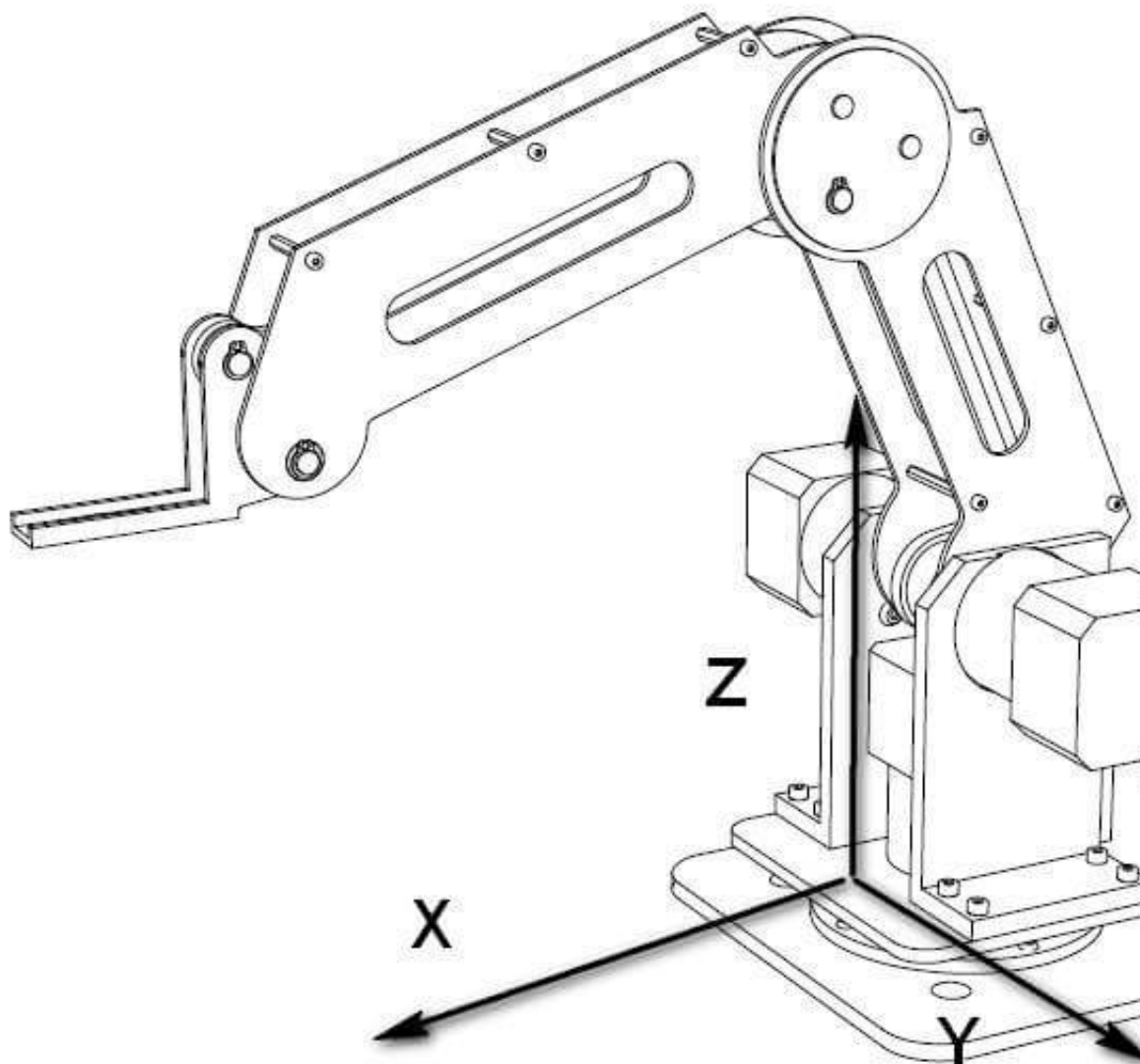
The screenshot shows a software window titled "FormDoBotPara" with a blue background. At the top, there are four tabs: "Axis", "Play", "Write", and "UserDef". The "UserDef" tab is currently selected. On the left side, there are eight input fields. The first two fields contain the value "45". The third field contains "0". The next three fields are empty. The last two fields contain "0". To the right of the first two input fields, the text "Big Arm Angle" is displayed in orange. Below that, the text "Small Arm Angle" is also displayed in orange. At the bottom center of the window, there is a button labeled "Send" with an orange border.

## STEP 8

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Back to the main window, Click Axis to enter the "Teach and Playback" section.

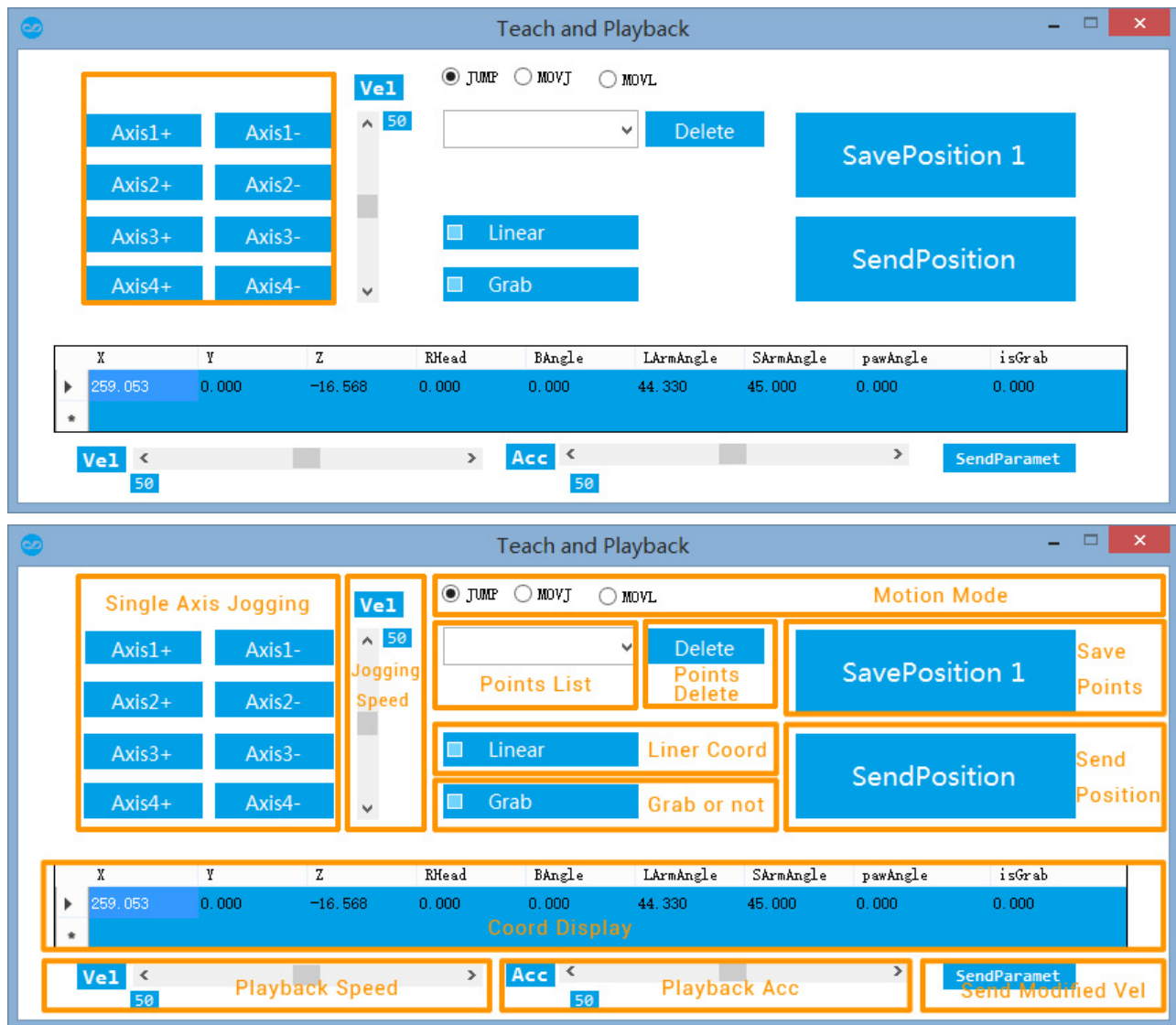




## STEP 9

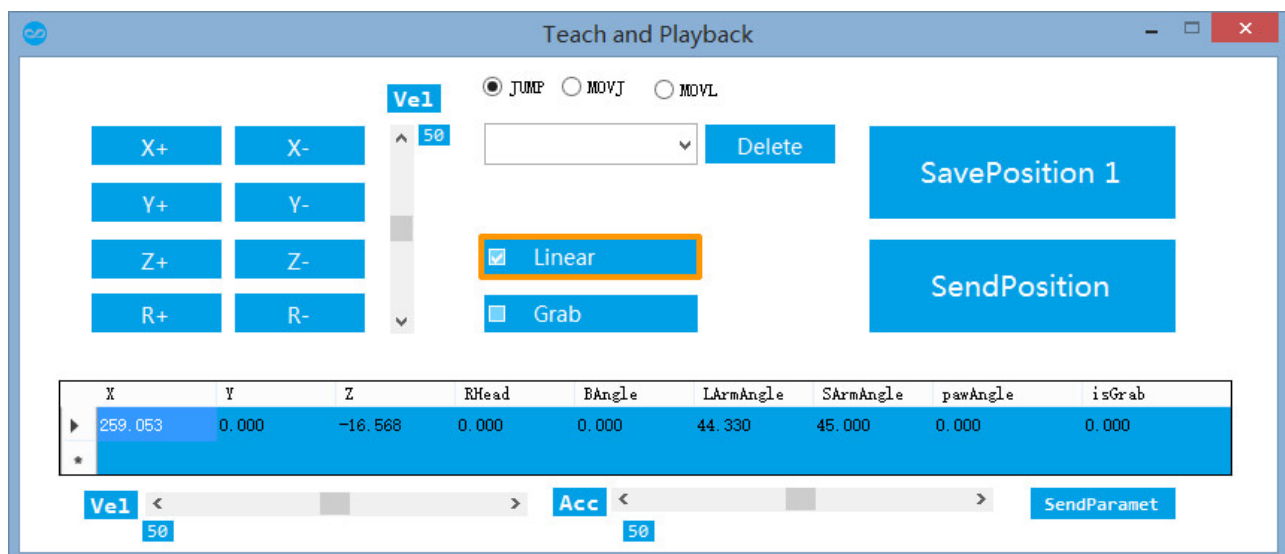
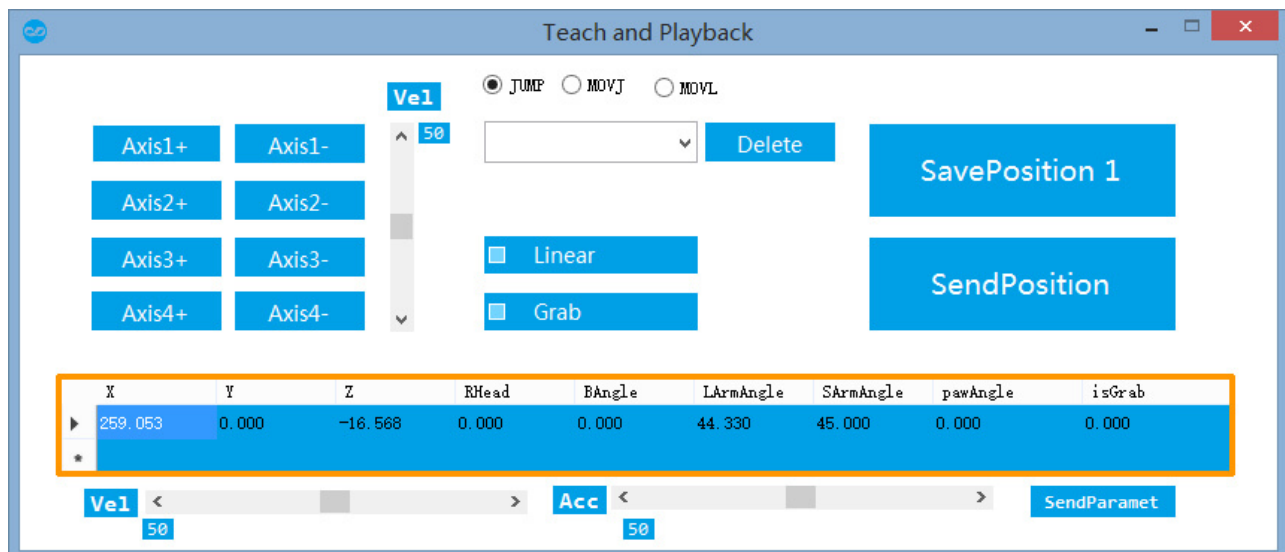
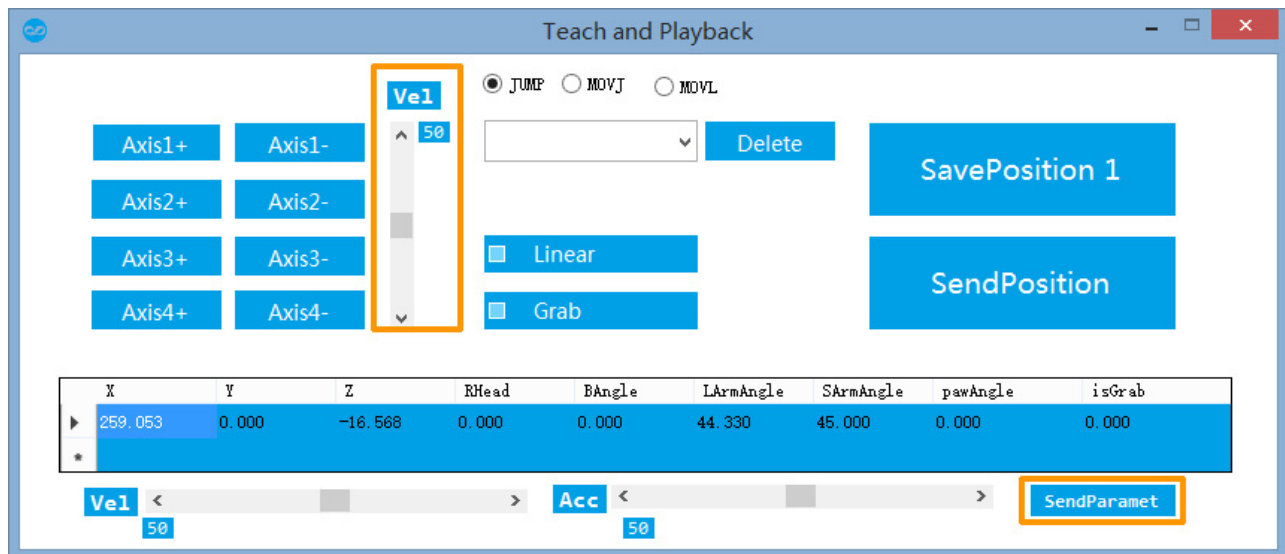
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Single Axis Point MovePress and hold mouse Axis 1+ Axis1- to move the 1axis point-move to positive and negative directions.

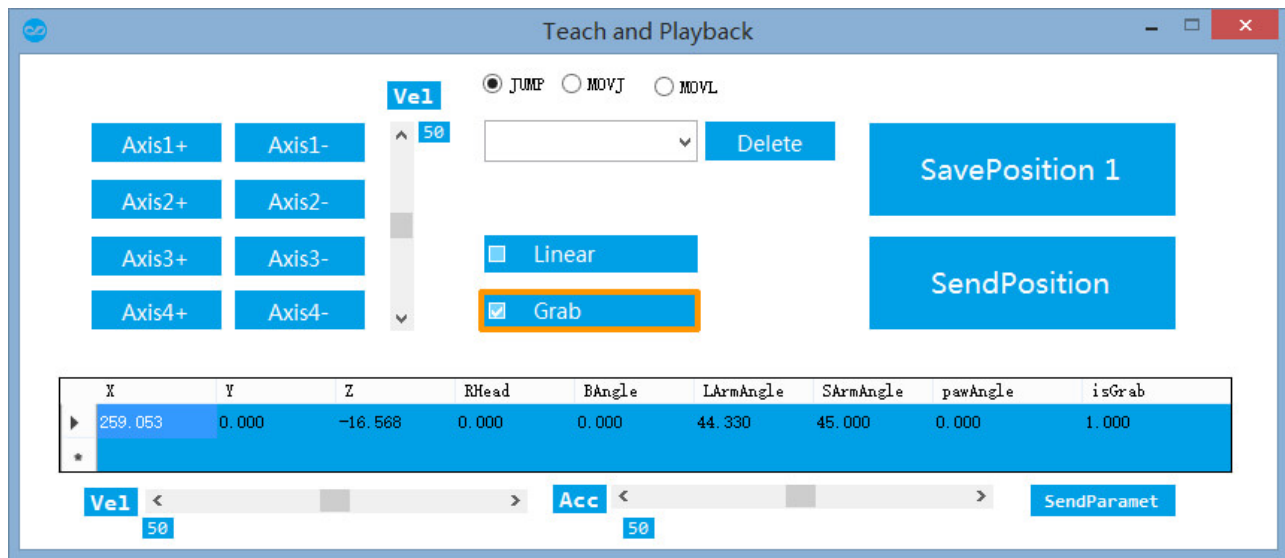


## STEP 10

You can use the Vel progress bar at the bottom left corner to set/adjust the speed of point move. The default speed is 50%. After adjustment, click SendParamet at the bottom right corner to apply.



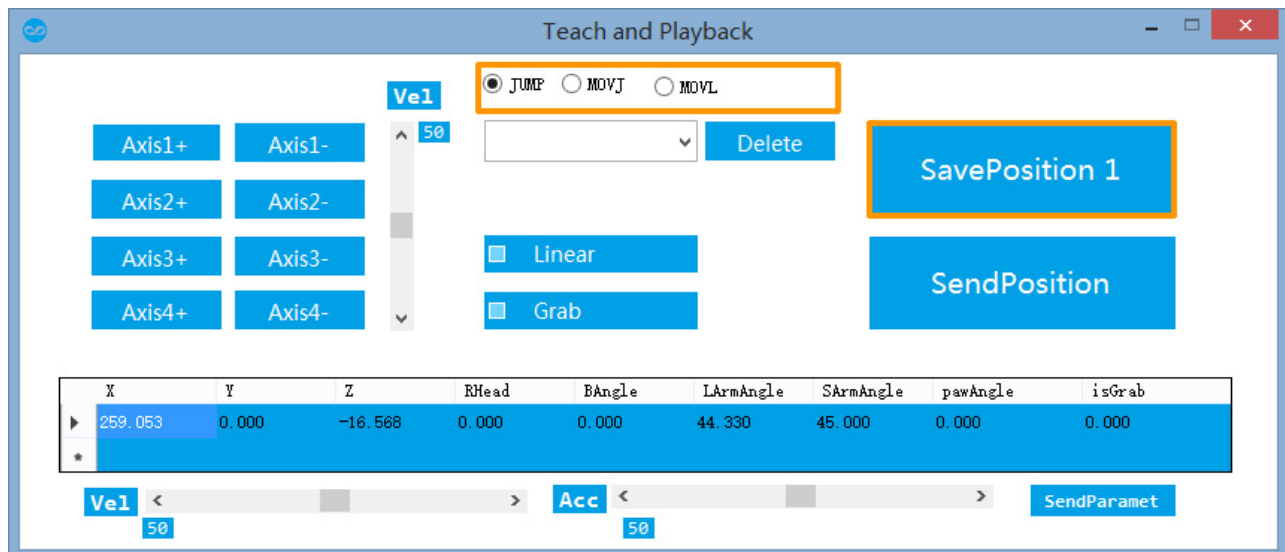




## STEP 11

### More Point Move Methods

Use point move to get to the target point, you can use multi choice buttons (JUMP, MOVJ, MOVL) to choose a point move method. Check "Grab" means you will suck and grab the subject to move to the target point.



JUMP: Door Shape Trajectory. As shown in picture, from point A to point B using JUMP, first elevate the Height, then parallel move to the Height above point B, then lower the Height.



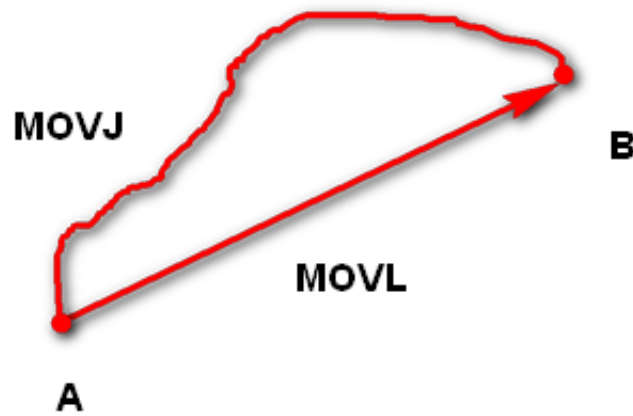
You can set different Height indexes at the "Jump Height" box in the Play section, and don't forget to click "Send" to apply.

The screenshot shows the "FormDoBotPara" window with the "Play" tab selected. The parameters are as follows:

Parameter	Value
Joint Vel	200
Joint Acc	200
Servo Vel	200
Servo Acc	400
Line Vel	200
Line Acc	400
Pause Time	200
Jump Height	40

The "Jump Height" field and the "Send" button are highlighted with orange boxes.

MOVJ: Joint Move From point A to point B, every joint starts with the joint angle A, then moves to the joint angle B as its ending position. During the process, all axes will arrive at the same time. The scenario wouldn't take place where one axis stops and another keeps moving.



MOVL: Linear Move. The trajectory from point A to point B is a straight line.

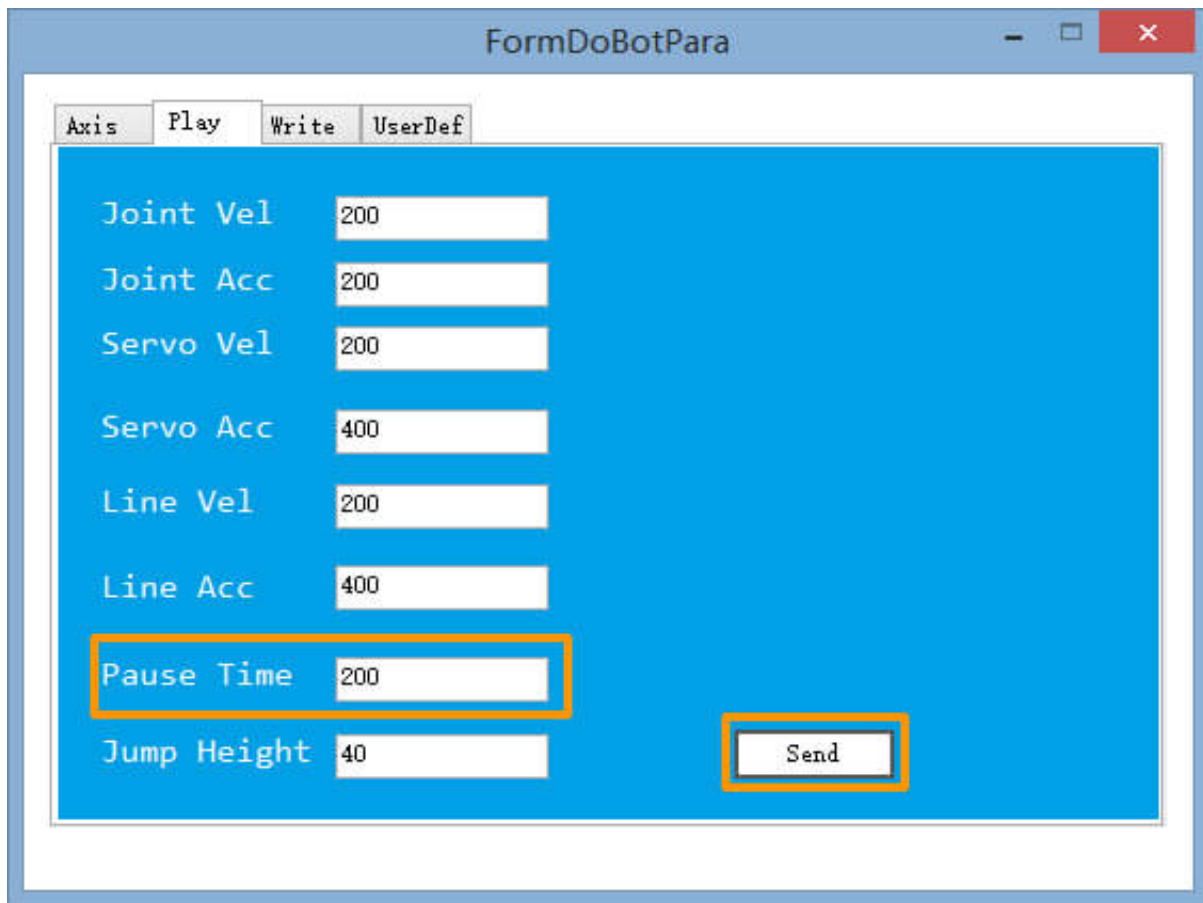
## STEP 12

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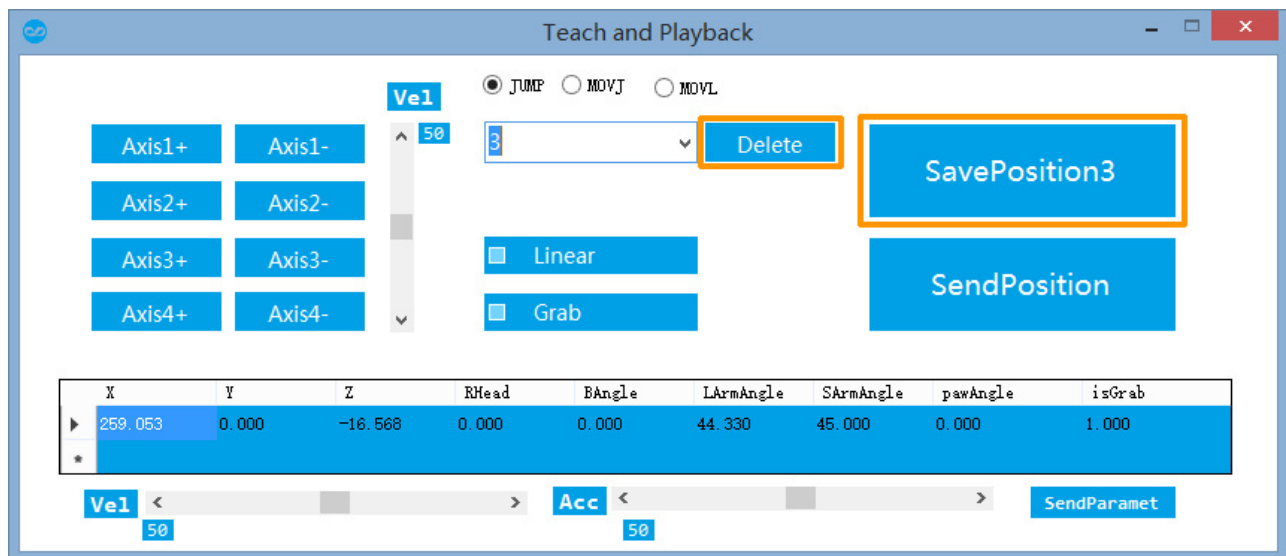
### Point Save Memory Repeat Mode

Click "SavePosition" to save the position of this point, the moving method and the status of the dish. Following points will be saved automatically in consecutive numerals, such as SavePosition1,2,3...etc. Moreover, when the arm reaches one point, it can take a short pause before reaching the next by adjusting the Pause Time through Play section, unit is ms.

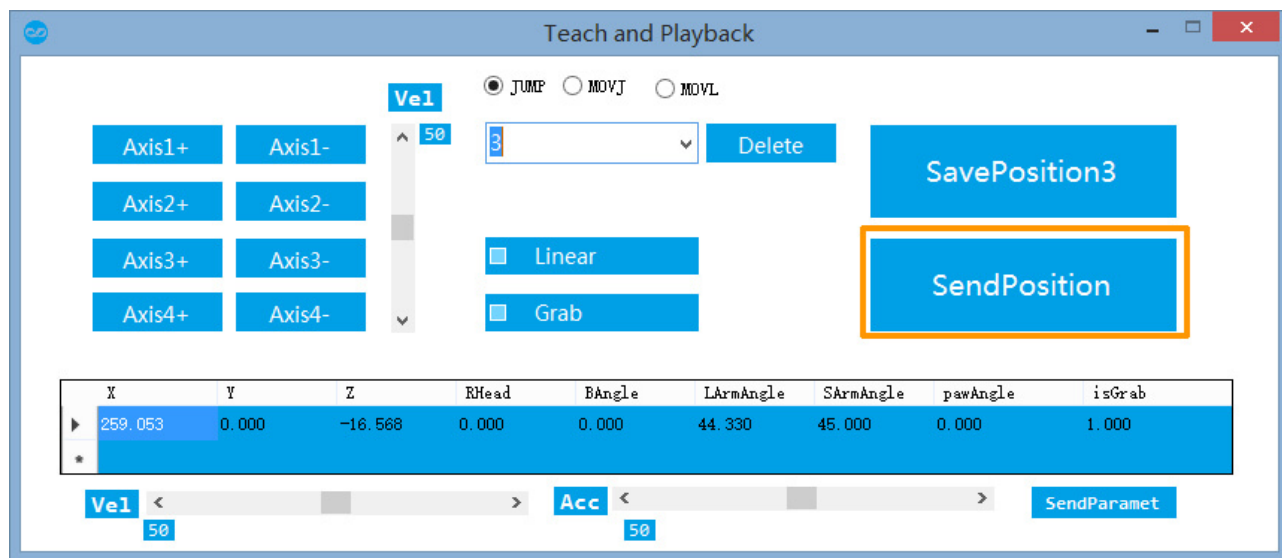




Select the point from the drop-down list, you can delete actions or save new points.



Click "SendPosition", the robot will then begin running the saved positions accordingly.



Through the Vel progress bar and Acc progress bar, you can adjust the speed of point move, after you are done, you need to click “SendParamet” on the bottom right corner to apply.

## ATTENTION

Do NOT adjust speed while in movement, adjust it before moving.

### Company Infos

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### Product Infos

Guide  
Feature  
Introduction  
FAQ



D-O-B-O-T: A  
Robot Arm in  
Every Home.





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