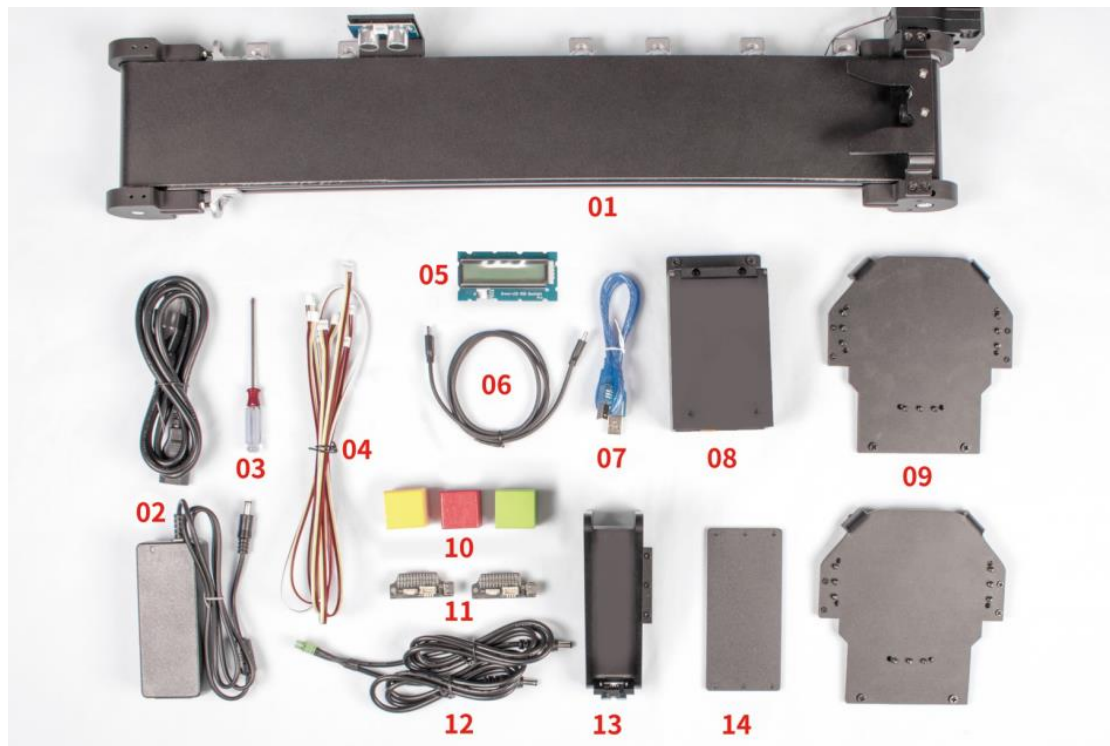


uArm Conveyor User Manual V1.0.0

Part Lists



Hardware:

1. Conveyor Belt * 1
2. 12V Power Adapter * 1
3. Screwdriver * 1
4. Seed Grove Sensor Cable * 4
5. LCD * 1
6. USB Type C Cord * 2
7. USB Cable * 1
8. Control Board * 1

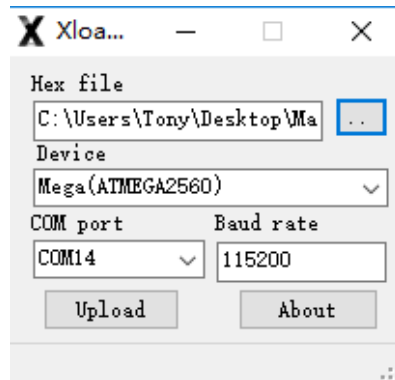
9. uArm Swift Pro Stator * 2
10. Target Object (Red & Green & Yellow Cube) * 1
11. uArm 30P Bottom Expansion Plate * 2
12. uArm Power Cable * 1
13. Material Slide * 1
14. Connection Plate * 1

Software:

1. [Arduino IDE](#)
2. [conveyor_belt.ino](#) for Arduino Mega 2560
3. [UArmSwiftPro_2ndUART.hex](#) for uArm

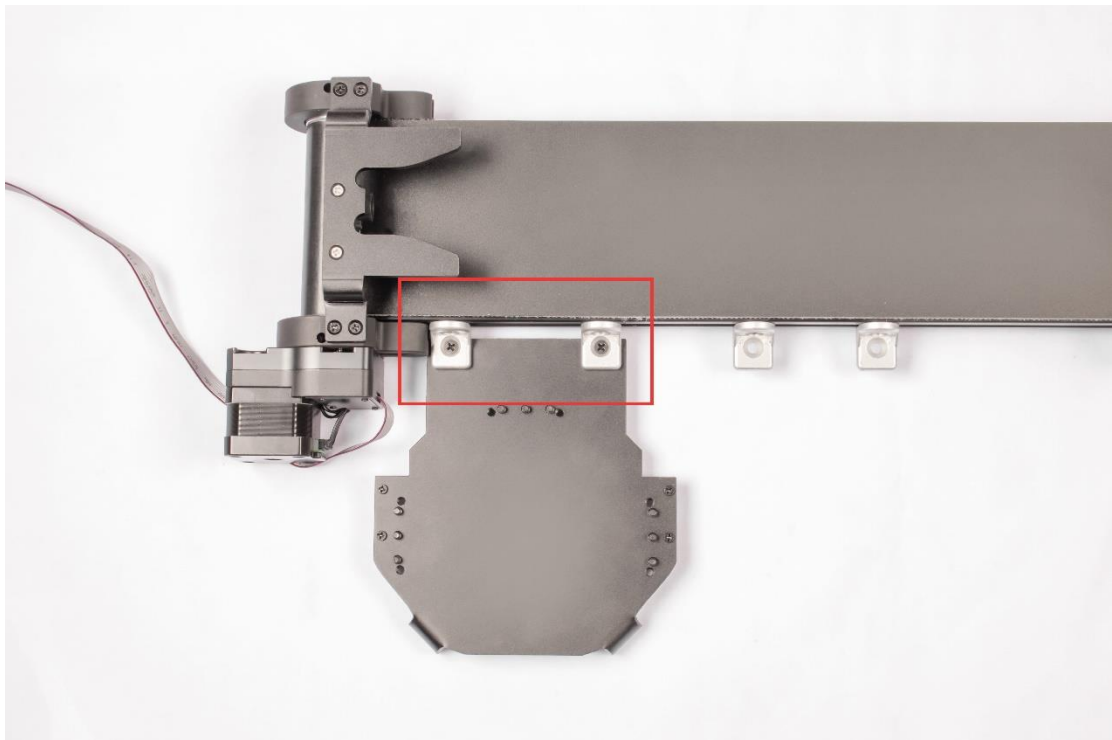
1. Software installation

- 1) Download the [hex](#)
- 2) Download and extract [XLoader](#).
- 3) Open XLoader and select your uArm's COM port from the drop down menu on the lower left.
- 4) Select the appropriate device from the dropdown list titled "Device".
- 5) Check that Xloader set the correct baud rate for the device: 115200 for Mega (ATMEGA2560).
- 6) Now use the browse button on the top right of the form to browse your hex file.
- 7) Once your hex file is selected, click "Upload" The upload process generally takes about 10 seconds to finish. Once completed, a message will appear in the bottom left corner of XLoader telling you how many bytes were uploaded. If there is an error, the total bytes uploaded will be shown instead. (Please check if the parameters are the same as shown in the picture below, except COM port may different)



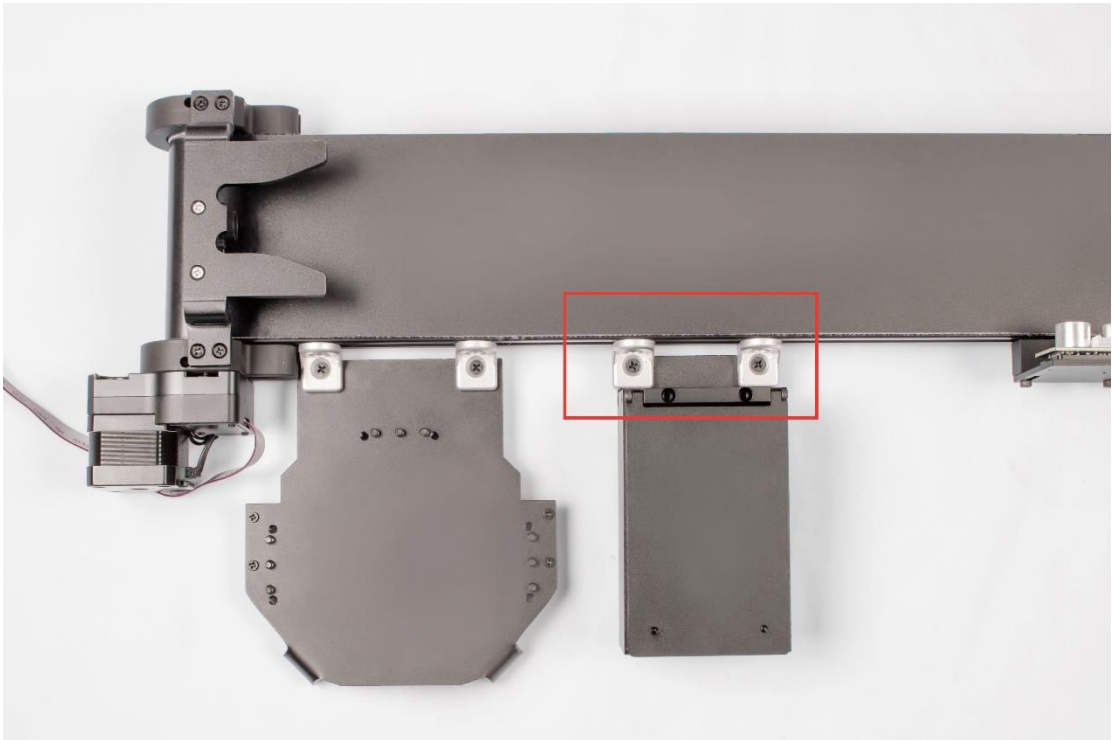
2. Hardware installation

1) Install the uArm Stator



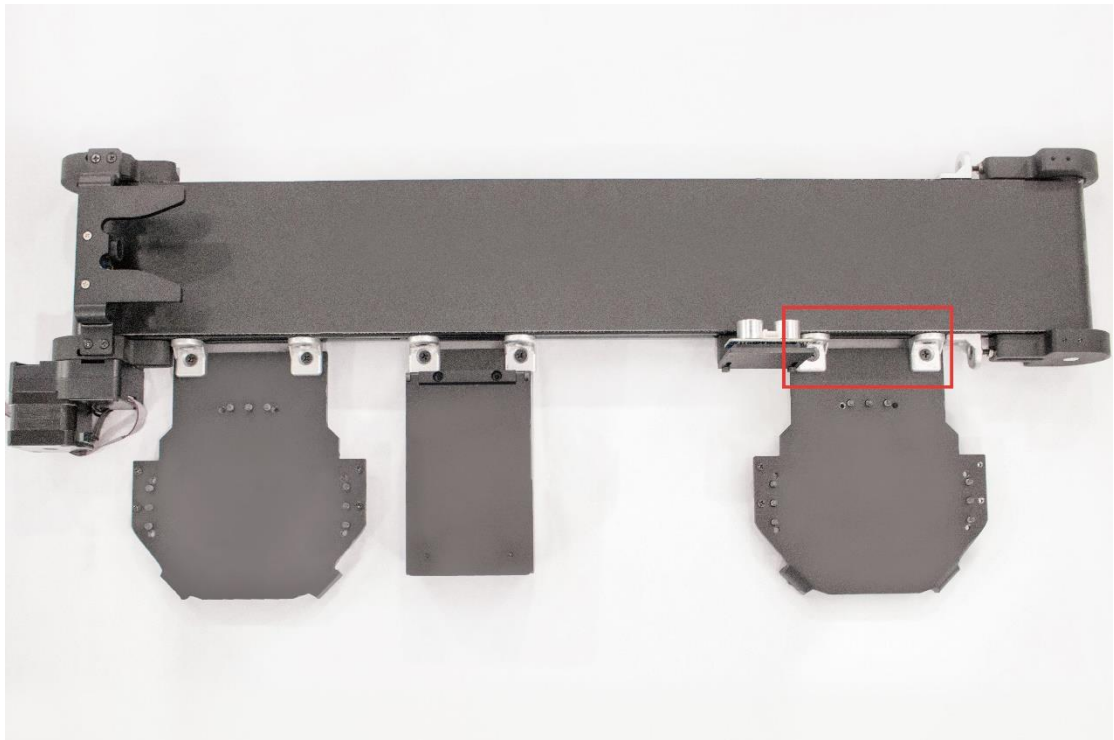
Fix the uArm stator on the conveyor belt.

2) Install Main Control Board



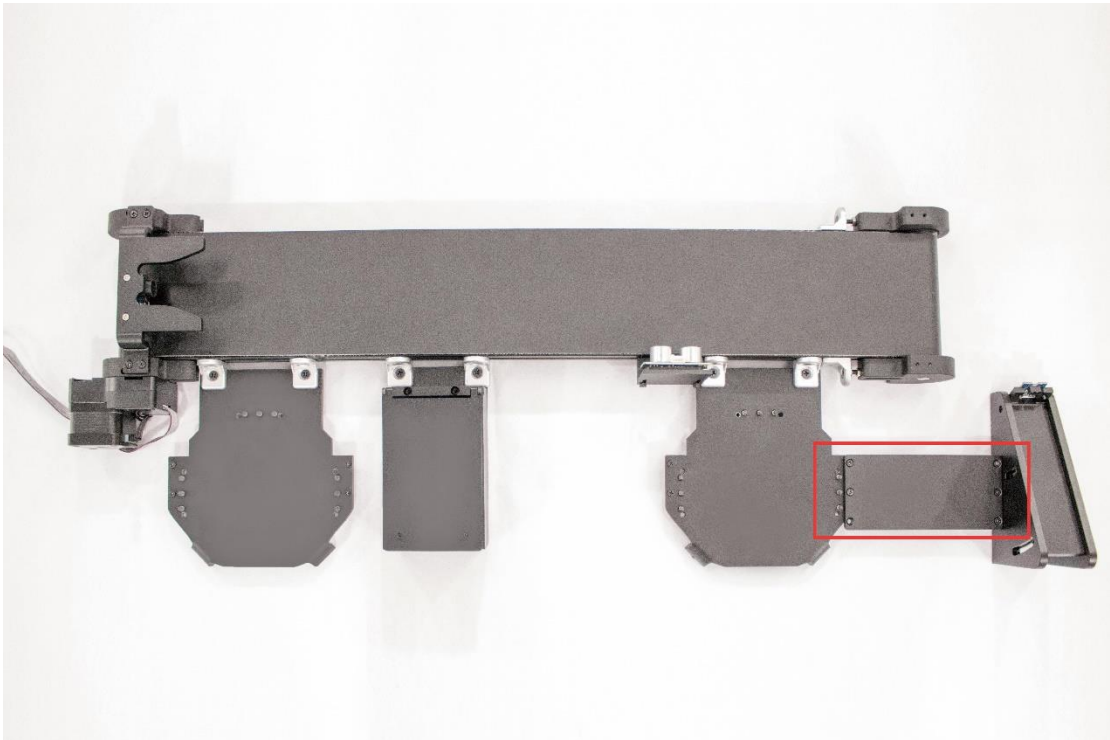
Fix the control board on the base of the conveyor belt.

3) Install another uArm Stator



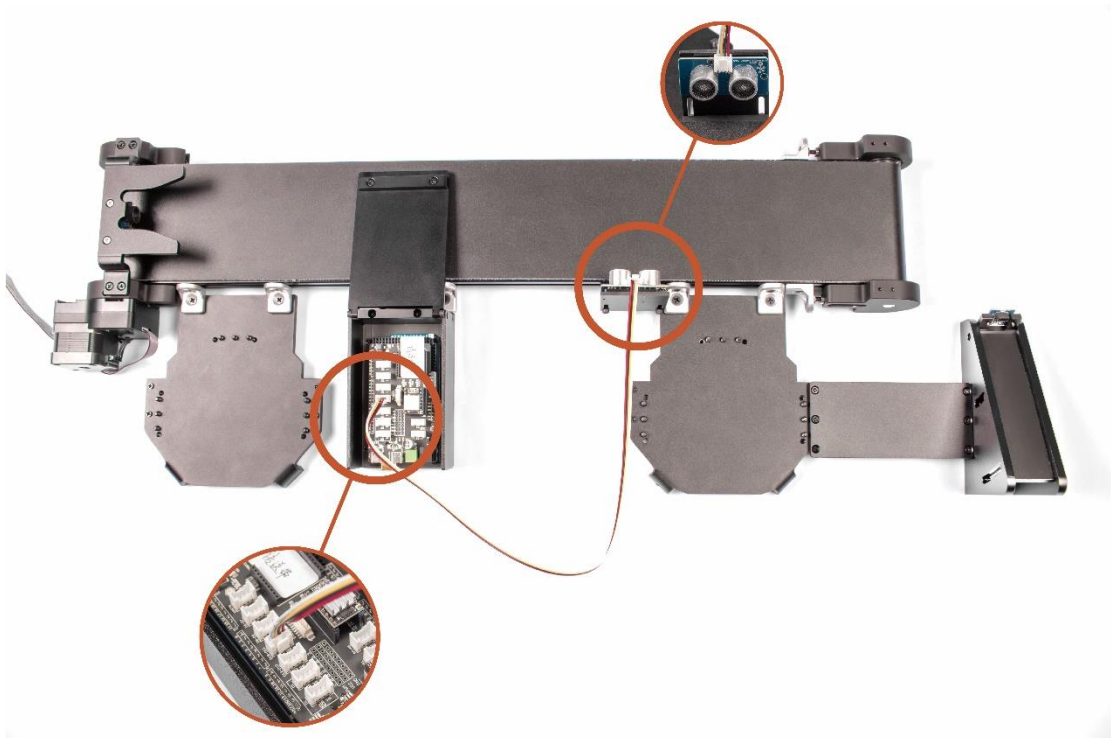
Fix another stator on the conveyor belt.

4) Install the Material Slide



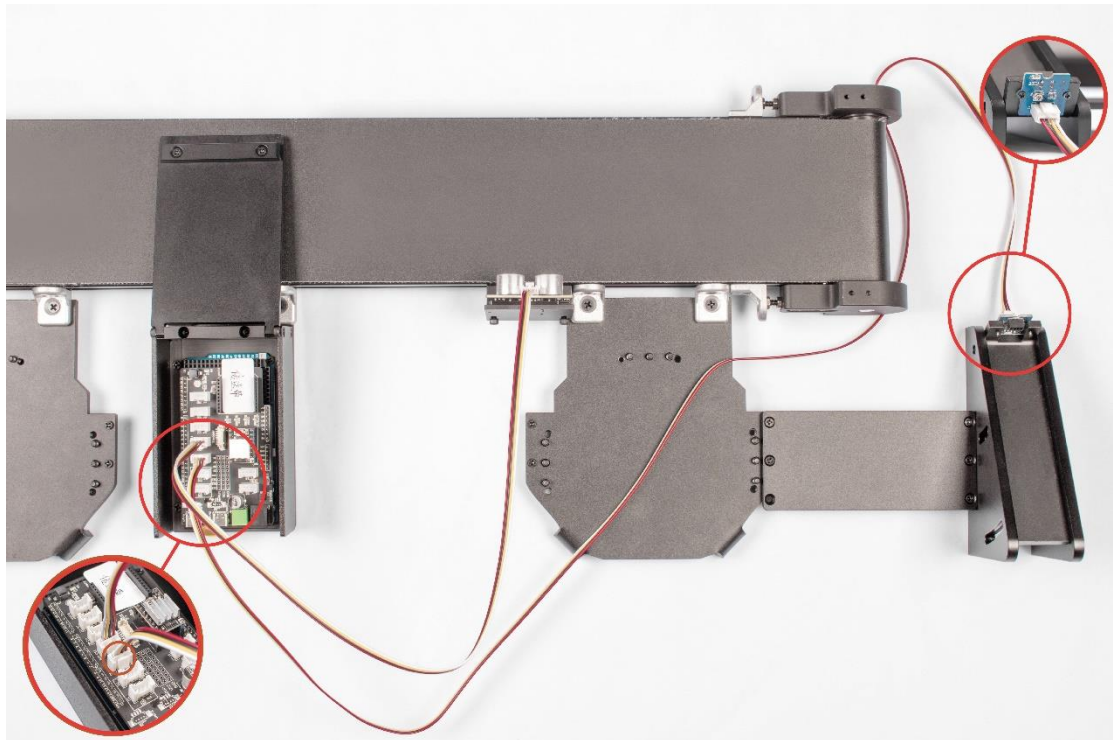
Use the connection plate to connect the stator and material slide.

5) Connect the Ultrasonic Sensor



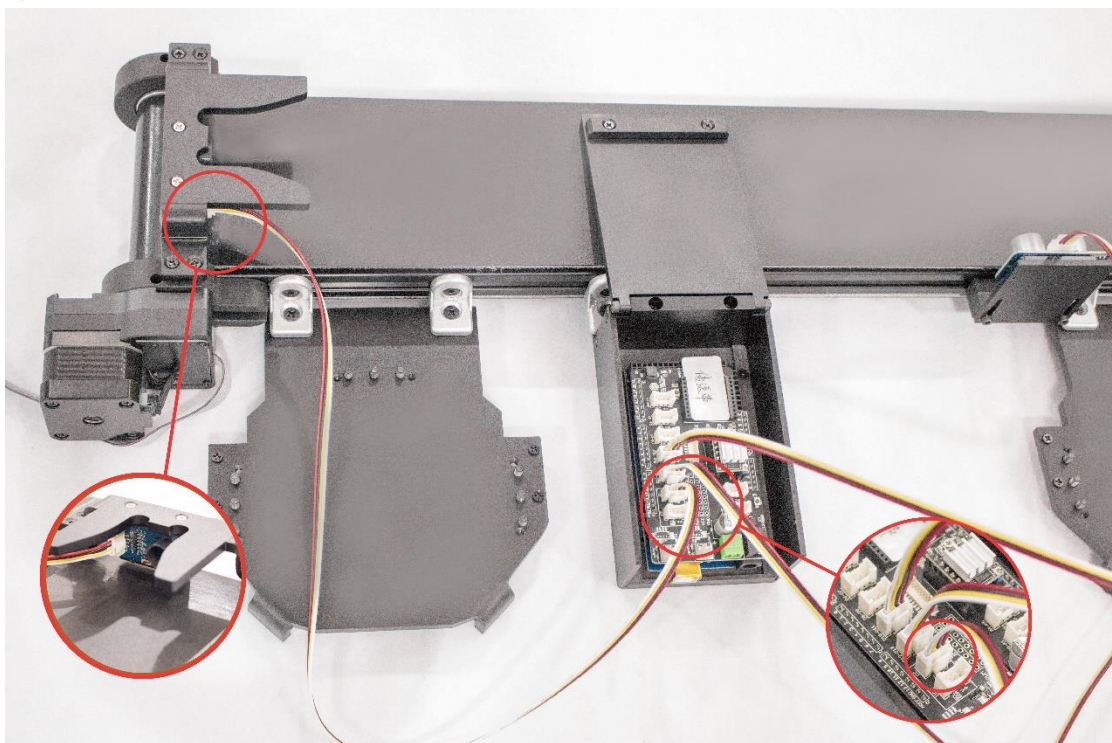
Insert the ultrasonic sensor cable into the D10-D11 port of the control board.

6) Connect the Line Finder



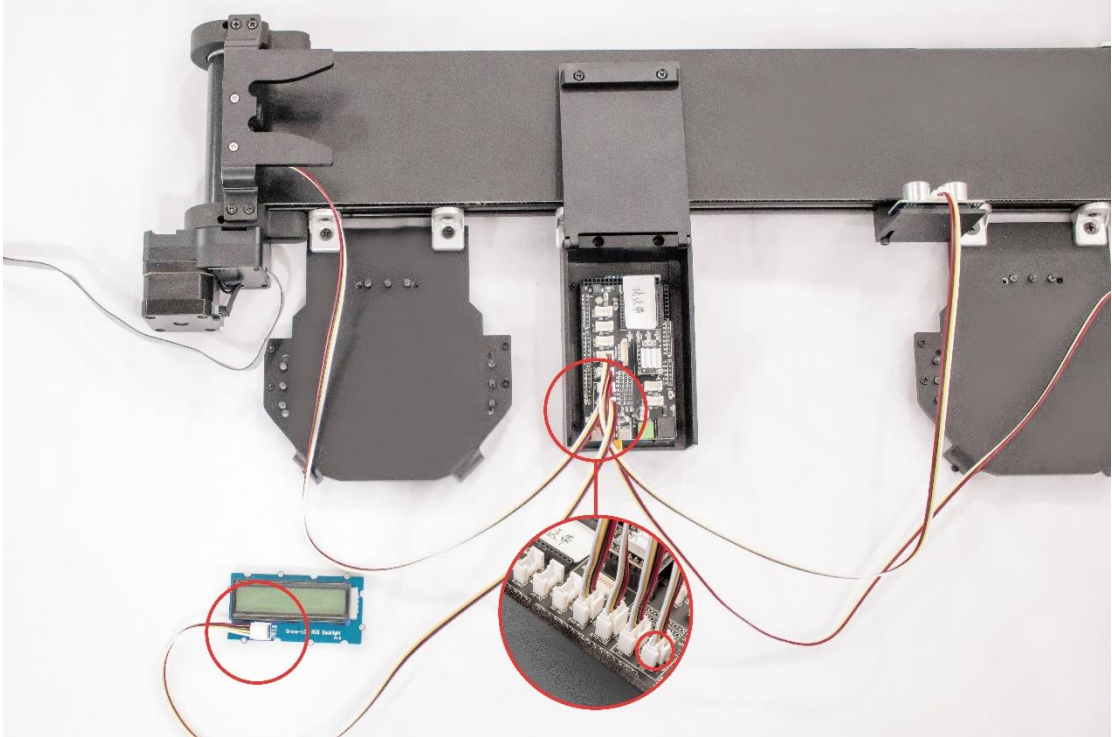
Insert the line finder cable into the D12-D13 port of the control board.

7) Connect the color sensor



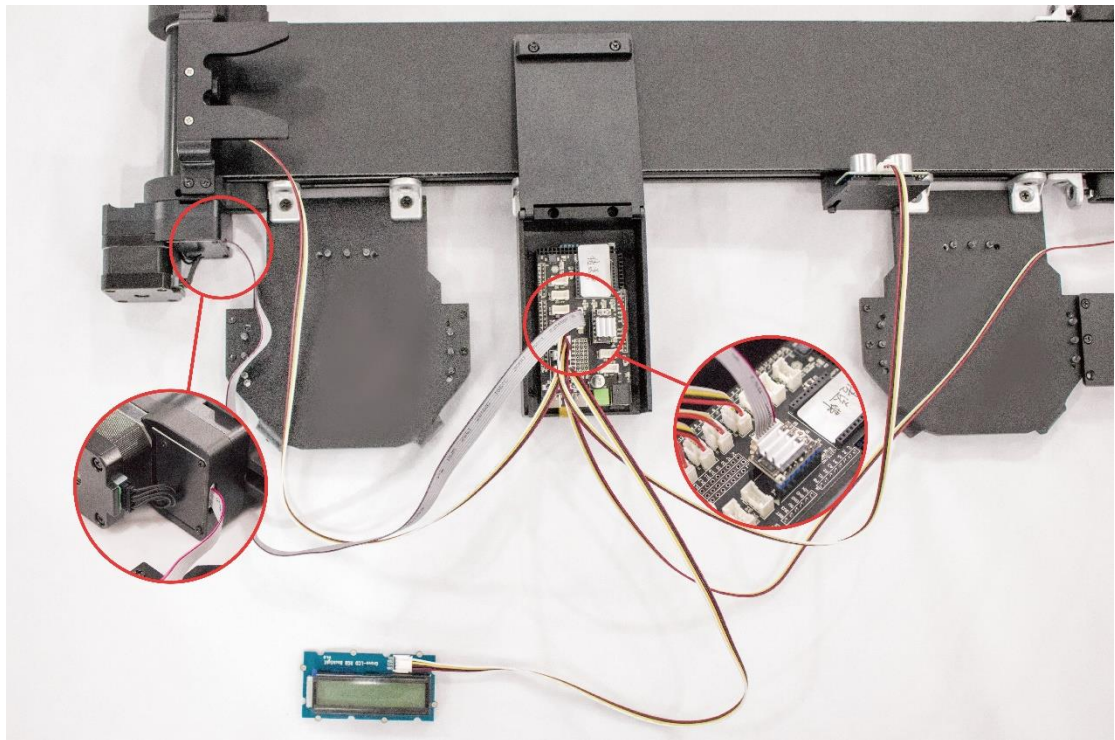
Insert the color sensor cable into the IIC port of the control board.

8) Connect the LCD



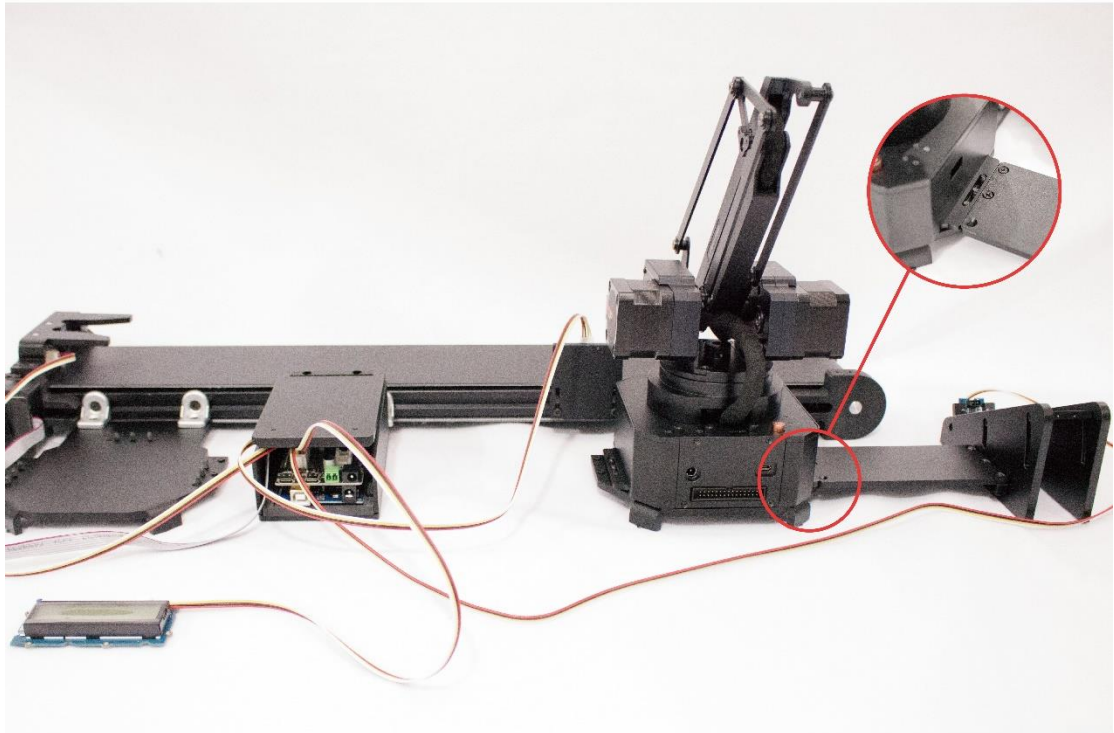
Insert the LCD cable into the IIC port of the control board.

9) Connect the Conveyor Belt

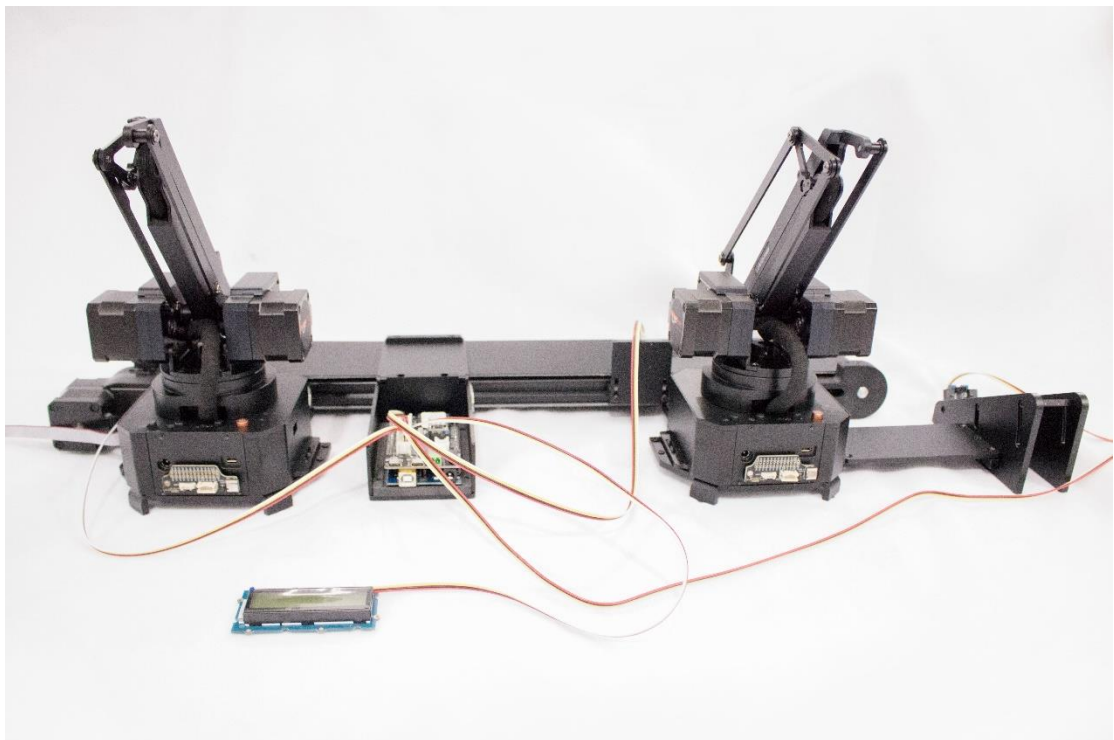


Insert the conveyor belt motor 8PIN cable into the motor drive port of the control board.

10) Install the uArm Swift Pro

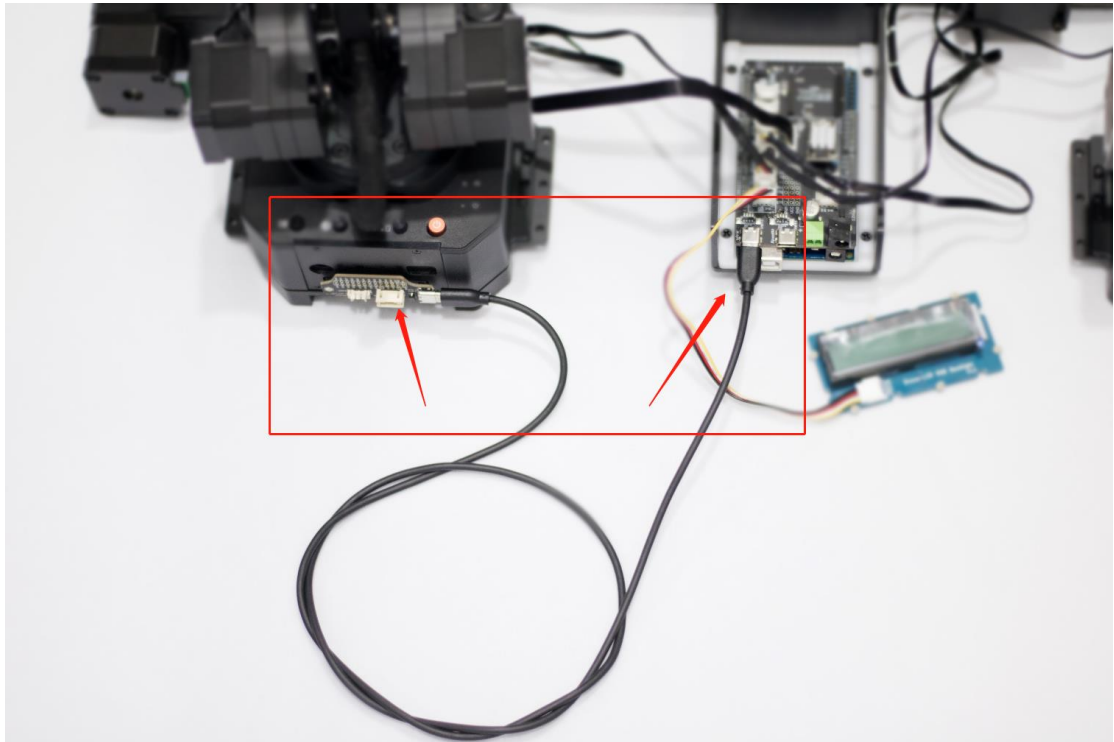


Place the uArm Swift Pro on the stator tightly.



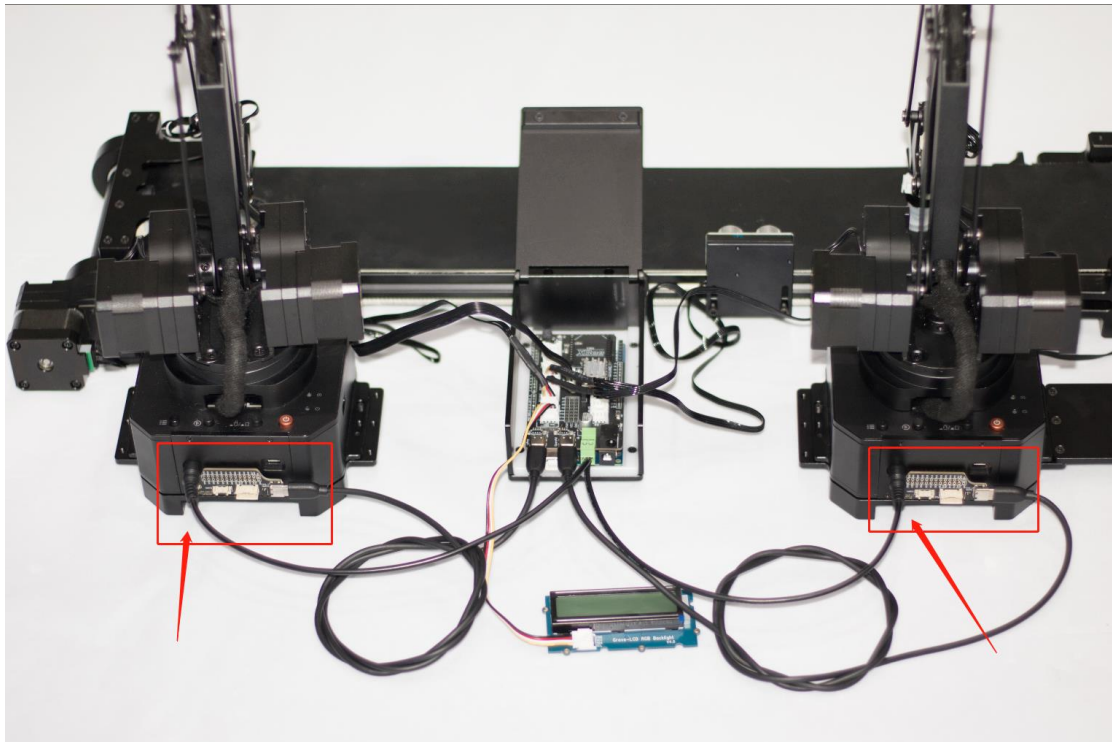
Place the other uArm Swift Pro the same way.

11) Connect the COM of uArm Swift Pro



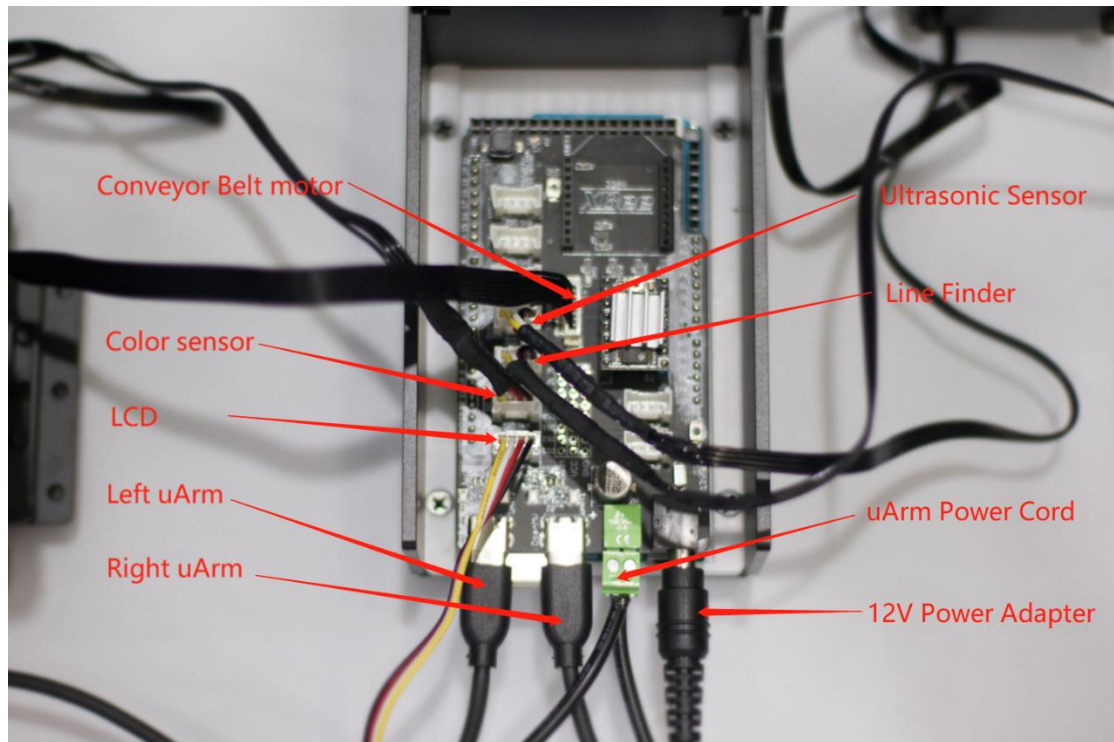
Connect the uArm Swift Pro to the control board with the TYPE-C cable. The TYPE-C interface on the left side of the control board is connected to the uArm Swift Pro on the left, and the TYPE-C interface on the right is connected to the uArm Swift Pro on the right.

12) Connect the Power Supply of uArm Swift Pro



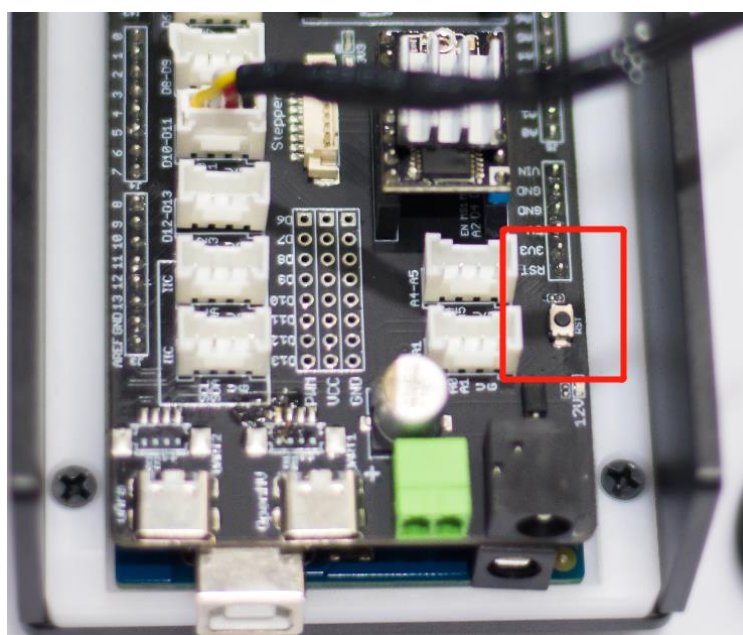
Link the two uArm Swift Pro to the power terminal.

13) Overview



3. Operation

- 1) Press the uArm power button
- 2) Use 12V power adapter to power up the whole system
- 3) Press the reset button of the control panel to reset the system



- 4) Place the color cube on the material slide and wait for uArm to pick it up.

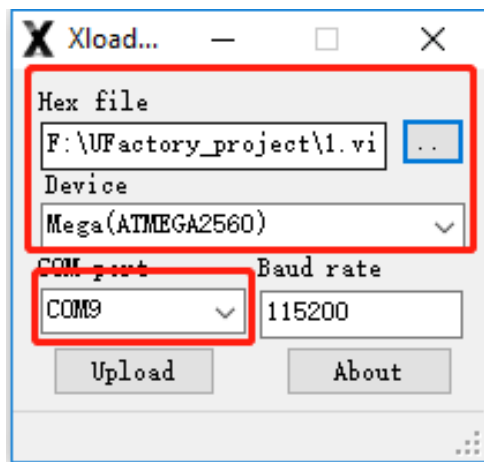
4. Video

<https://www.youtube.com/watch?v=bnhiZaNqpz8>

5. Firmware Reset

In the first step, a special firmware for the conveyor belt is added to the uArm Swift Pro. uArm cannot be controlled using uArm Studio. If you want to control uArm using uArm Studio, please follow the following steps to restore the firmware:

1. Connect the uArm Swift Pro to your computer, open XLoader and load swiftpro3.2.0.hex.
2. Click the "upload" button to upload the hex to uArm Swift Pro.



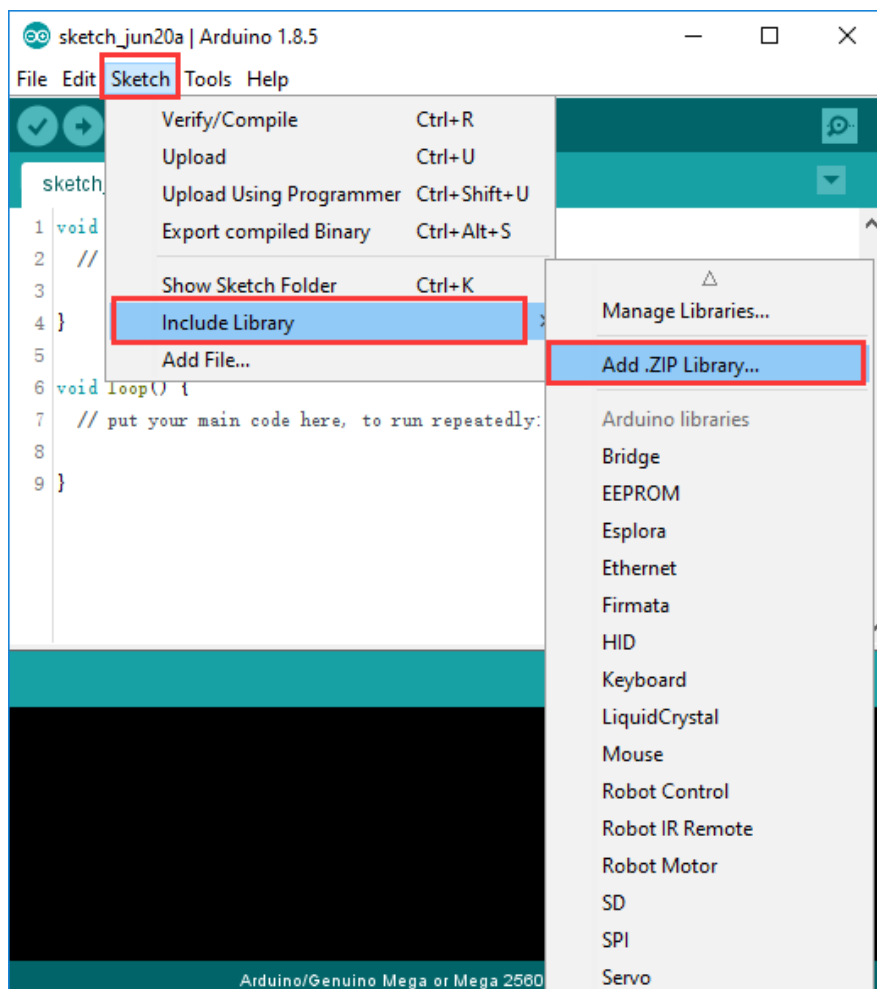
6. Note

The firmware Arduino Mega2560 has been set before it shipped. If the firmware need to be re-written, please refer to the following steps:

- (1) Download firmware: conveyor_belt.ino for Arduino Mega 2560
- (2) Connect Mega2560 to the computer via USB cable.



(3) Download External libraries



- (4) Open firmware in the Arduino IDE and send the firmware to Arduino Mega2560 with the parameters.

