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With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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UARM Swift Pro

Quick-Start Guide

V1.0.12
July. 2017

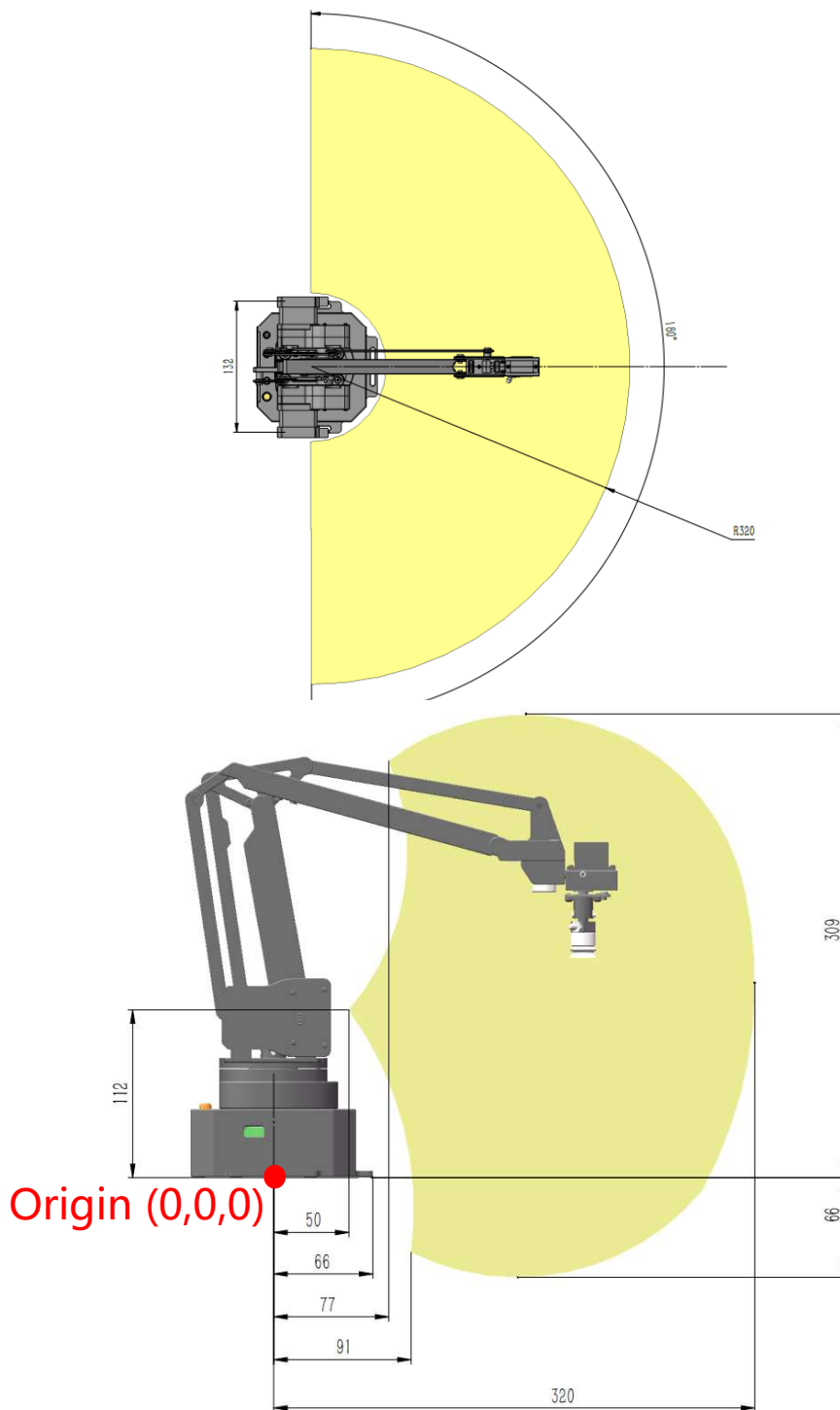


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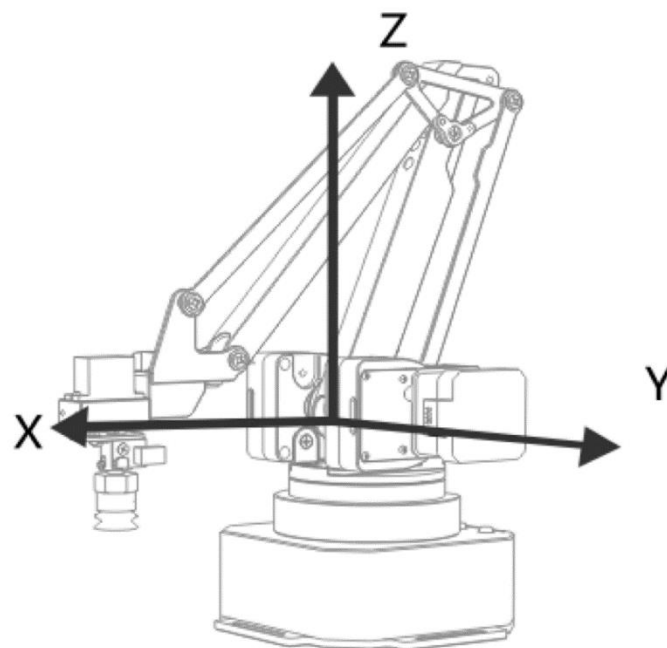
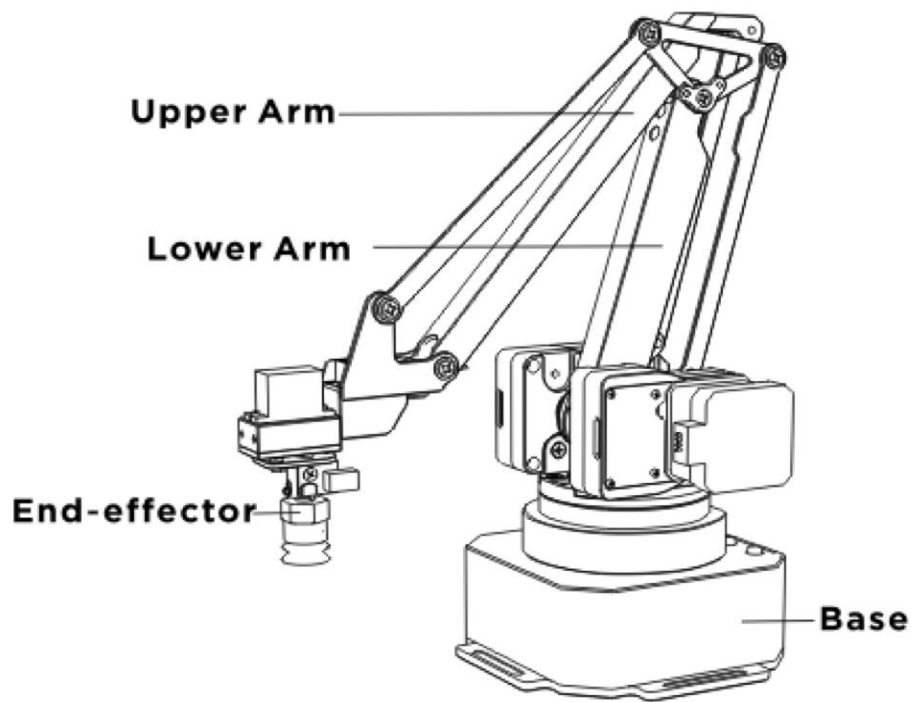
Safety Instructions

1. Please don't put your hands between the arms when uArm is moving.
2. Please use the official power supply for safety reasons.
3. Please clear a space for uArm, in case of knocking down anything.

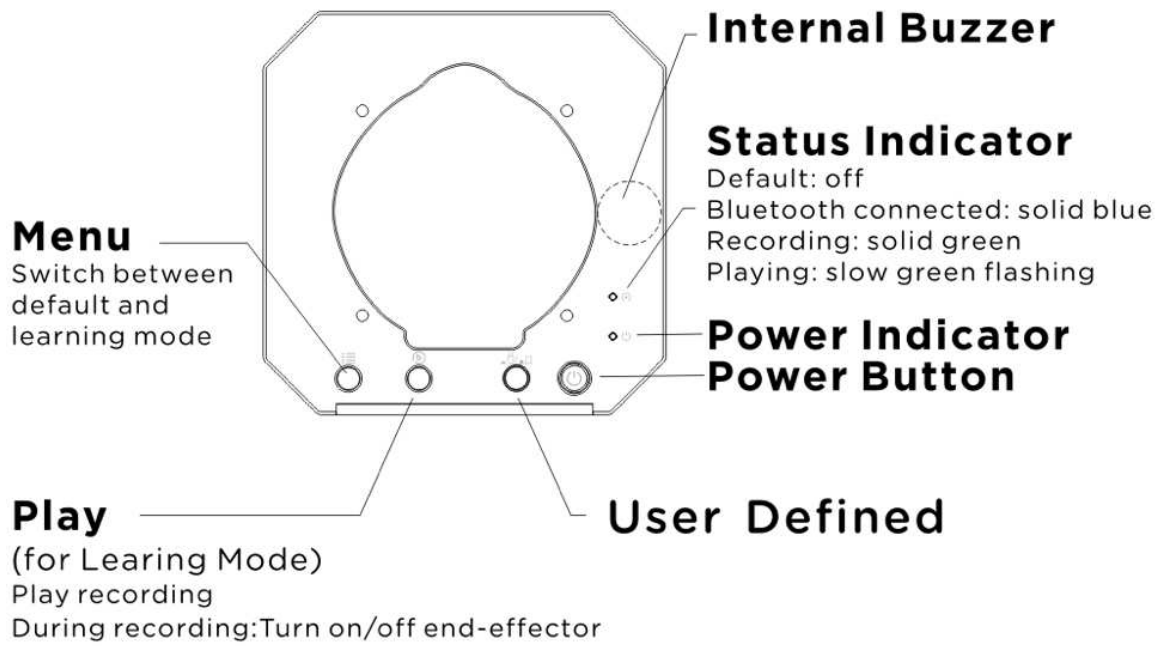


Product Overview

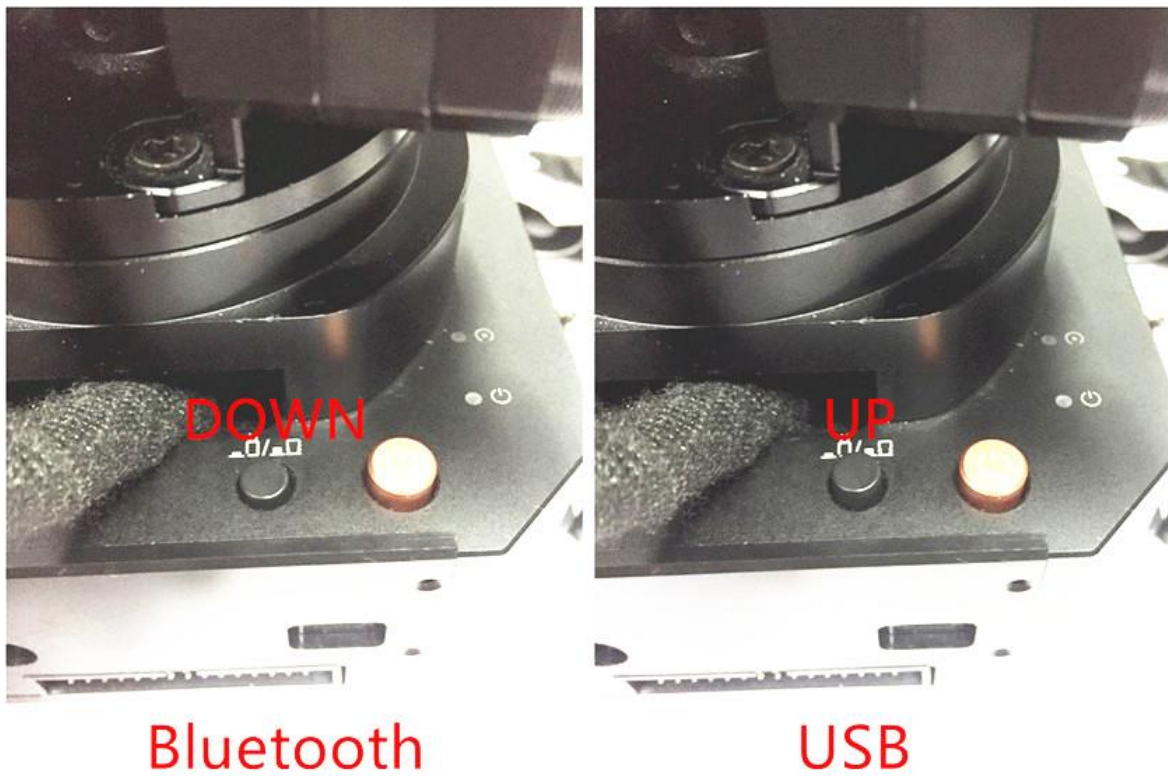
1. Reference Frame



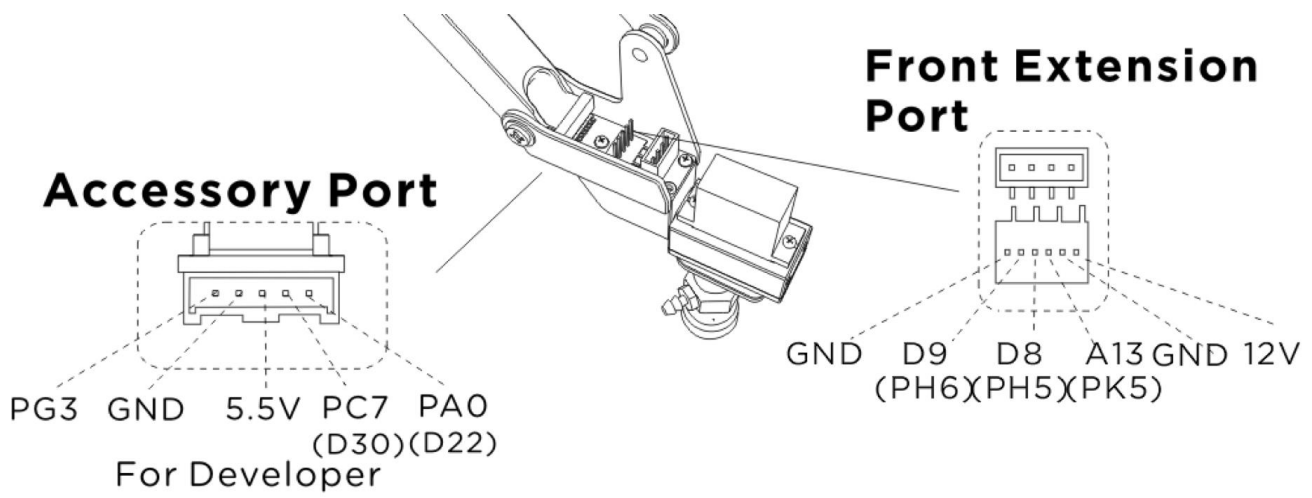
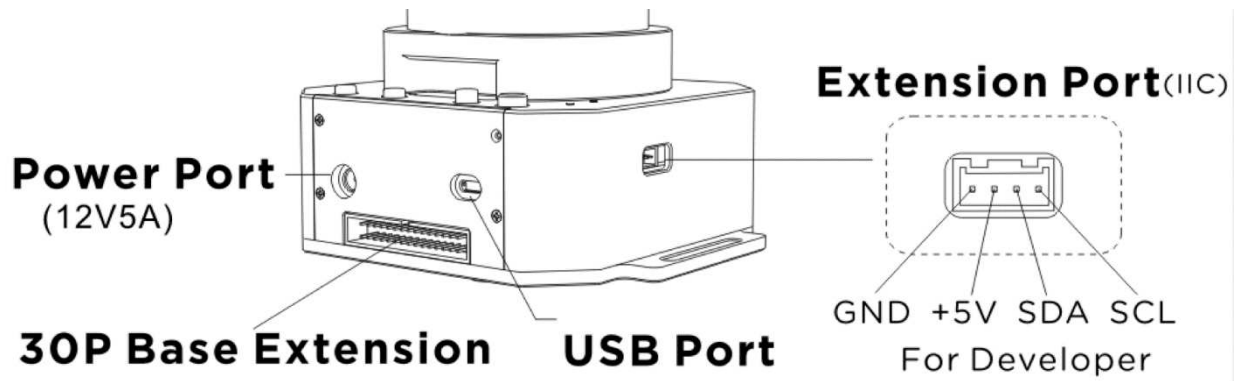
2. Buttons & Indicator Lights



Caution: By default, the user defined button is for switching between Bluetooth and USB mode. Please ensure the button is UP while communicating with uArm via USB.

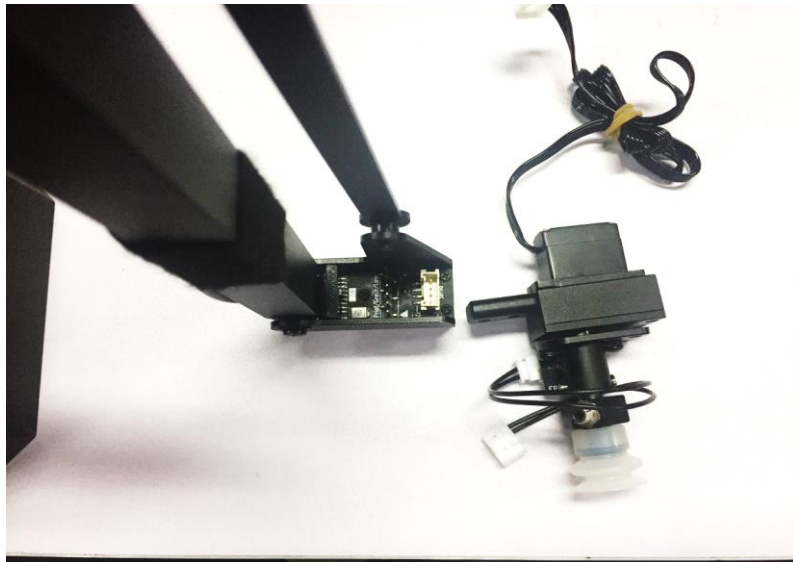


3.Extension Description



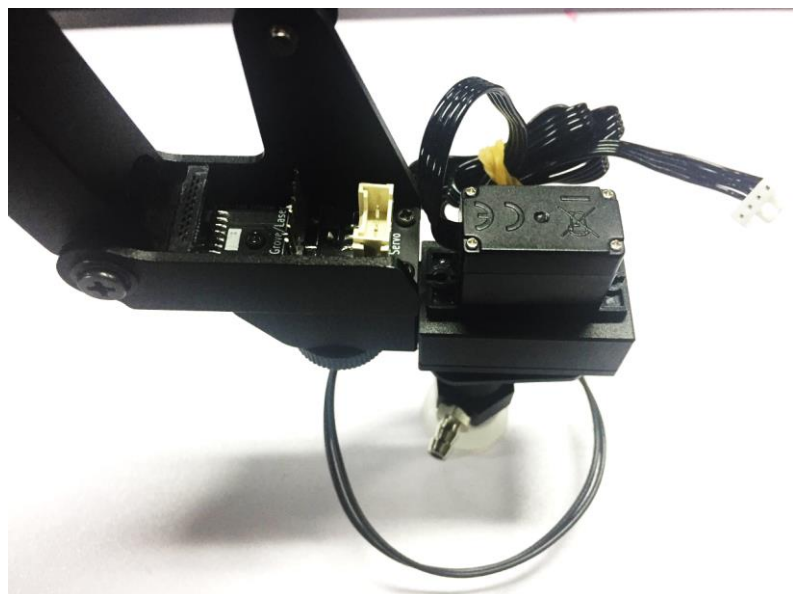
Hardware Installation

1. Suction Cup (Default)



Preparation

Step 1: Install the suction to the end-effector and lock the nut tightly



Note: Similarly, if you want to uninstall suction cup, unlock the nut.

Step 2: Plug the wire of 4th axis motor, suction tube and limited switch

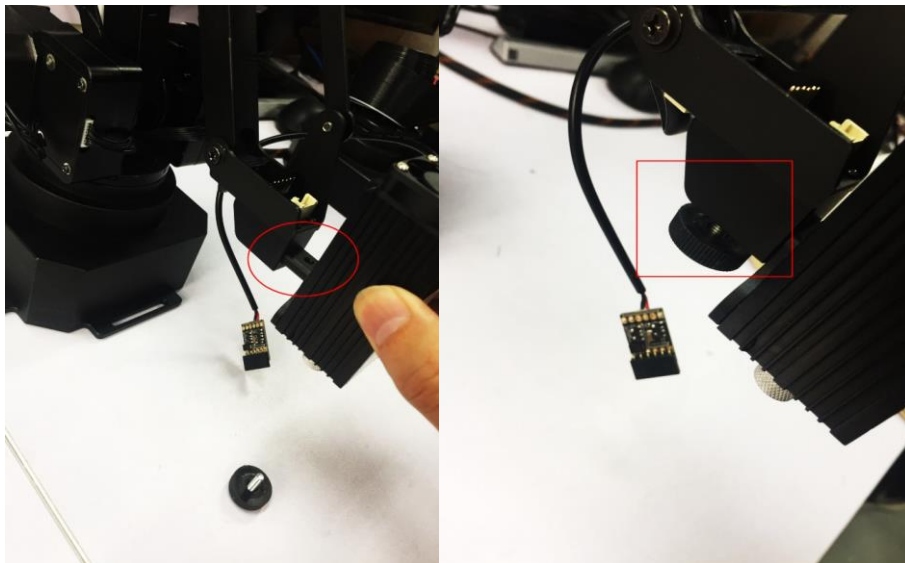


2. Laser

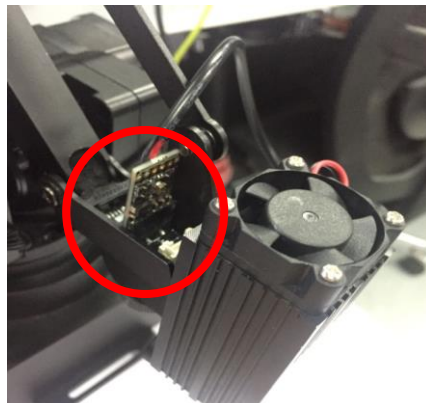
Preparation (Required Parts: Laser head, Thumb nut)



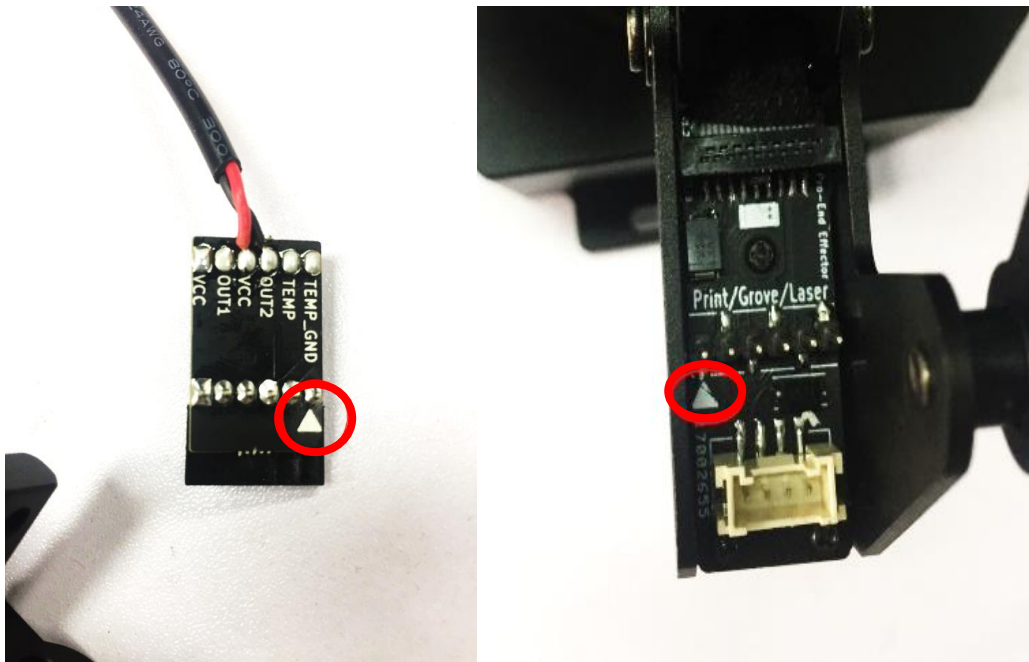
Step 1: Install the laser head and lock the nuts tightly



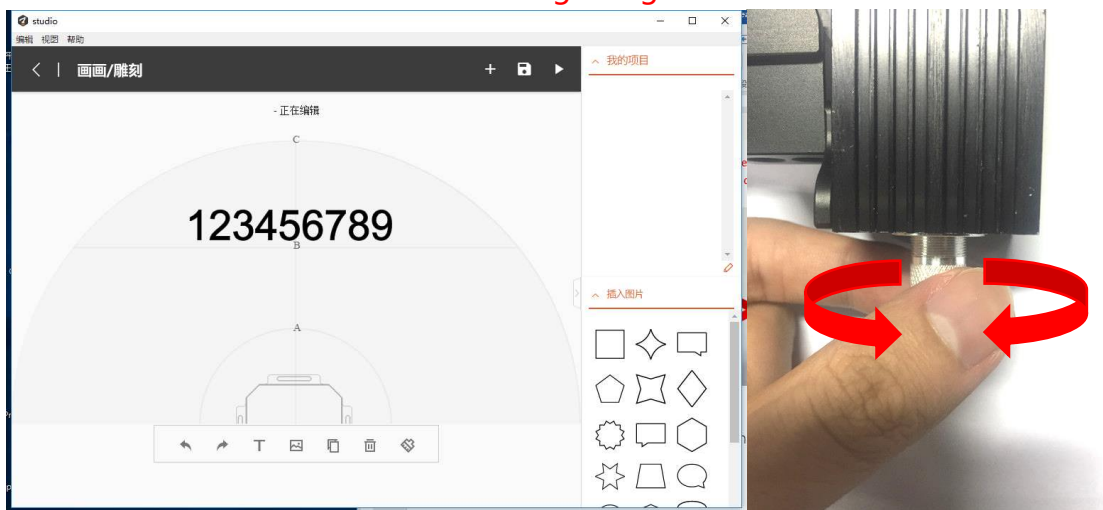
Step 2: Plug in the board of laser to the end-effector



(Please pay attention to the direction)

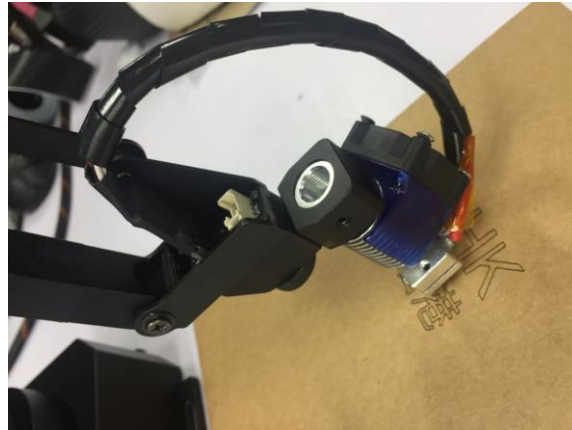


Caution: If the laser could not engrave the paper, please open the uarm studio and start the laser engraving, then focus adjust the lens of laser slowly. Please do not touch the light of laser during the engraving.

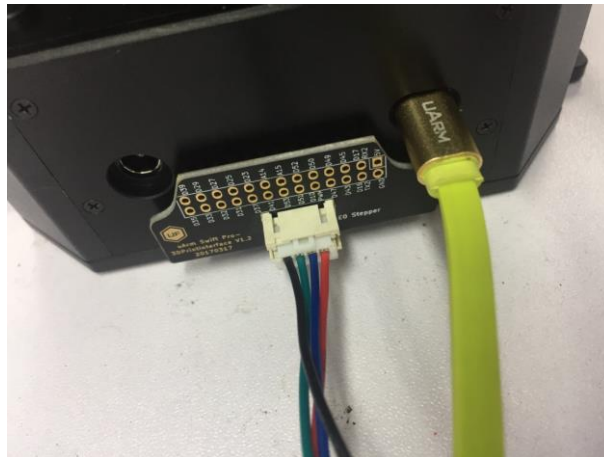


3. 3D Printing

Step 1: Install the 3D printing extruder and locked the nut tightly

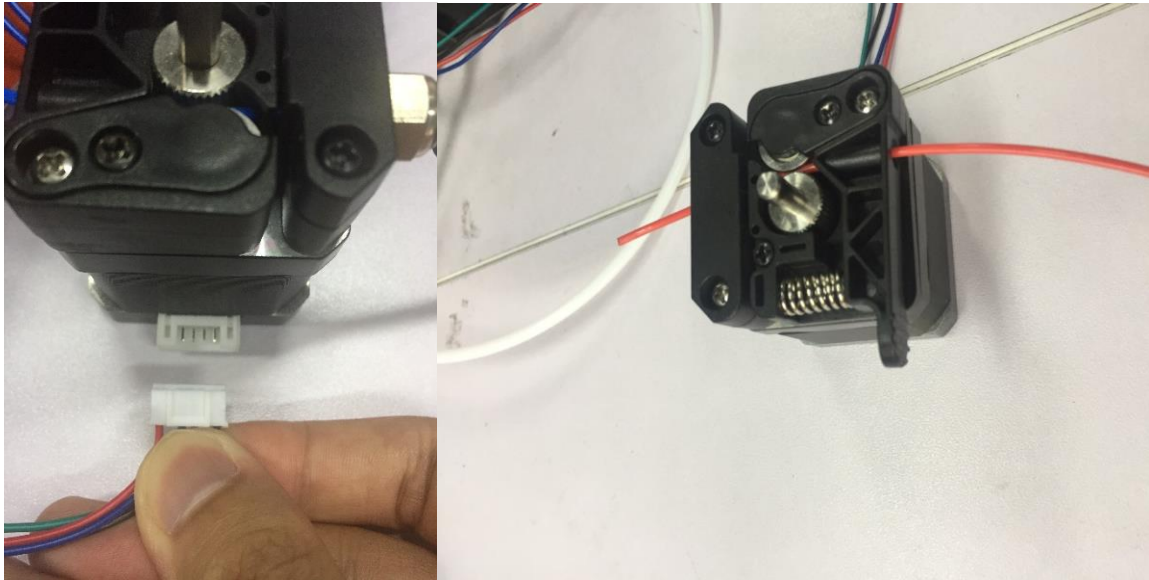


Step 2: Install the 3D printing feeding system



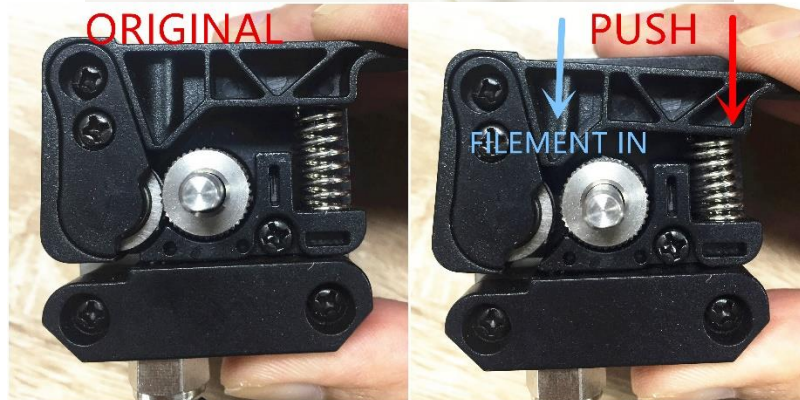
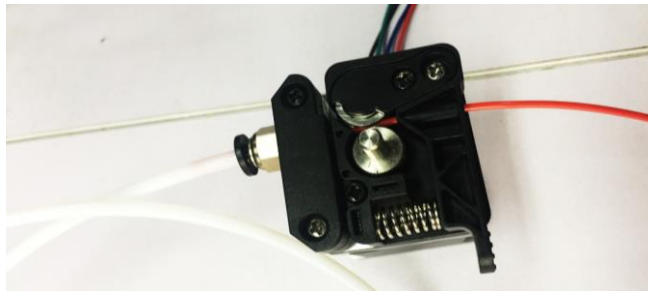
Caution: Please ensure the connection is correct. Or the computer wont recognize the uarm.

(Connect the motor with the extension board with the 4-color cable)



(Feed the PLA material we offered into the feeding system)

Step 3: Install the PTFE tube



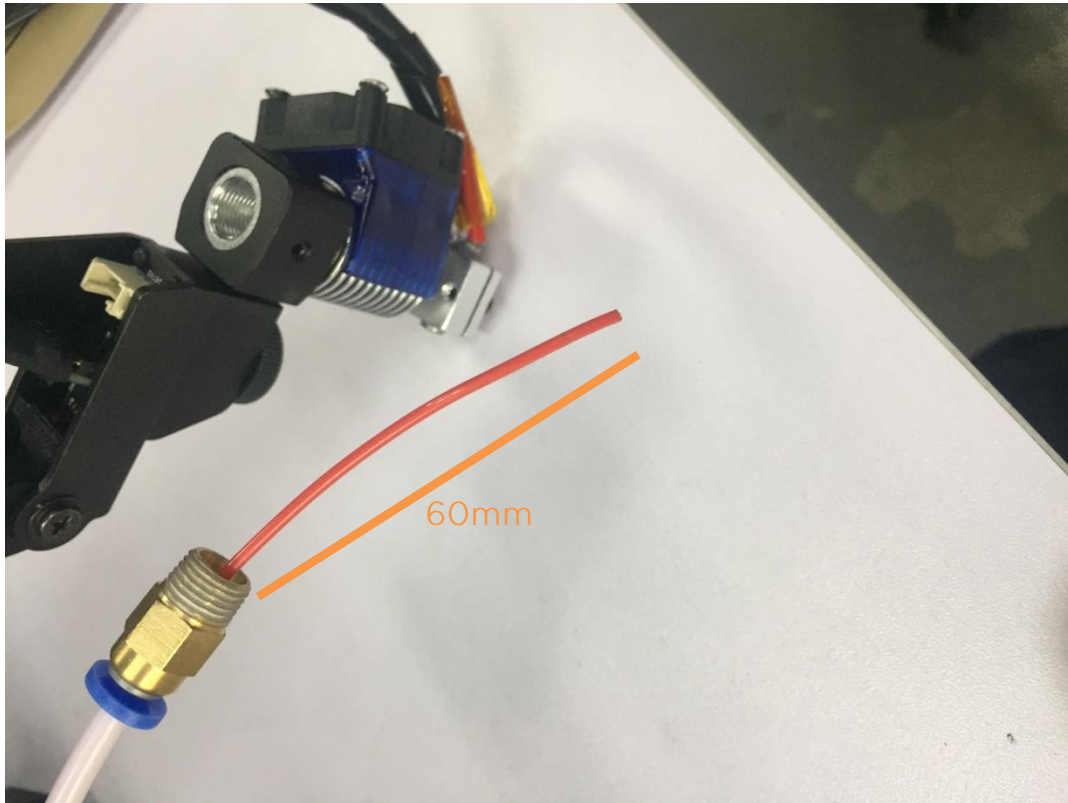
Feeding the filament



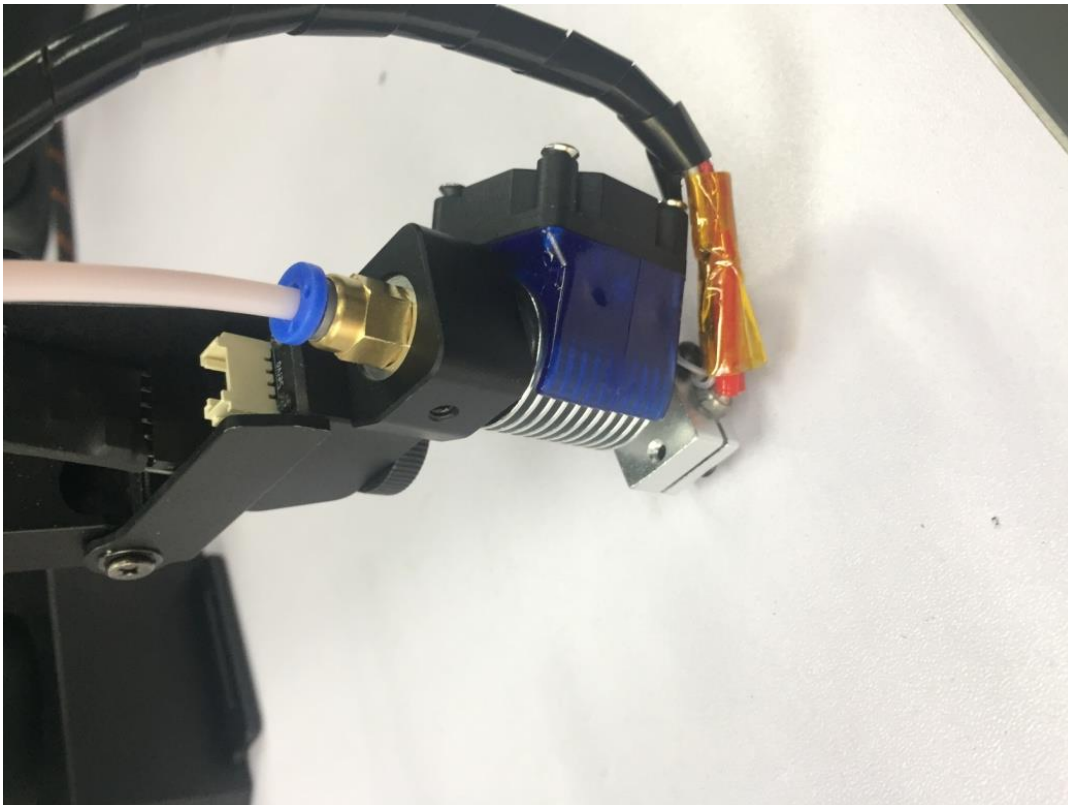
Installing the tube

Step 4:

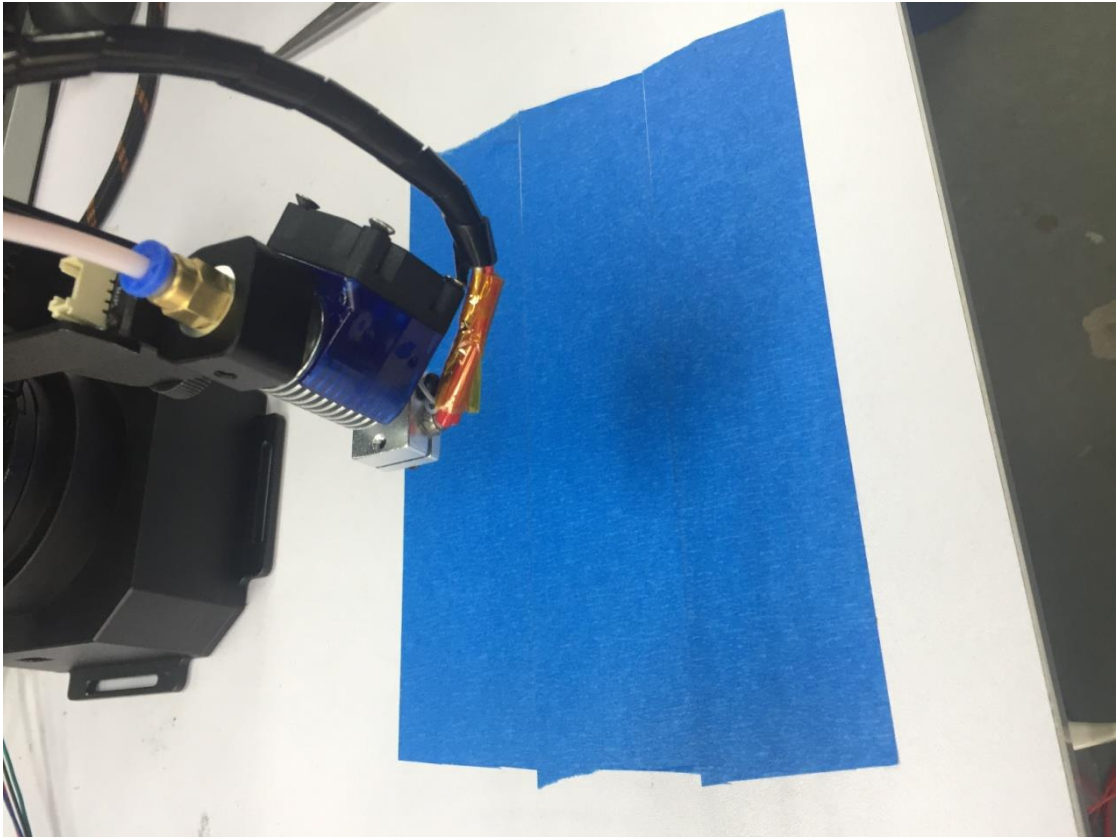
Keep feeding the material until it's 60mm out of the other side of PTFE tube.



Step 5: Install the tube to the extruder



Step 6: Stick the masking tape on the table



4. Swift Gripper

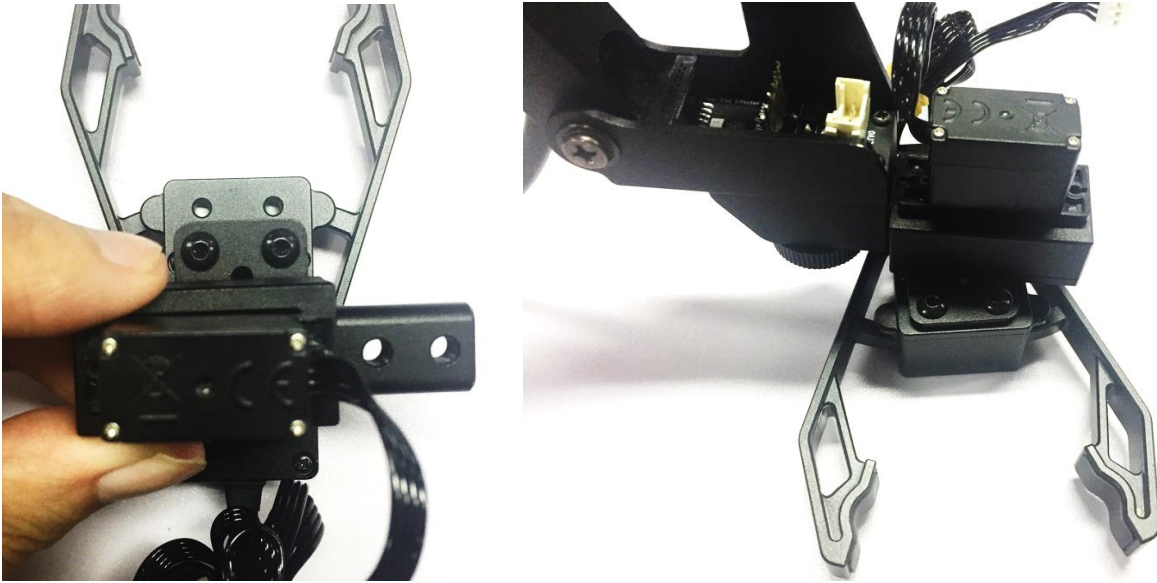
Preparation



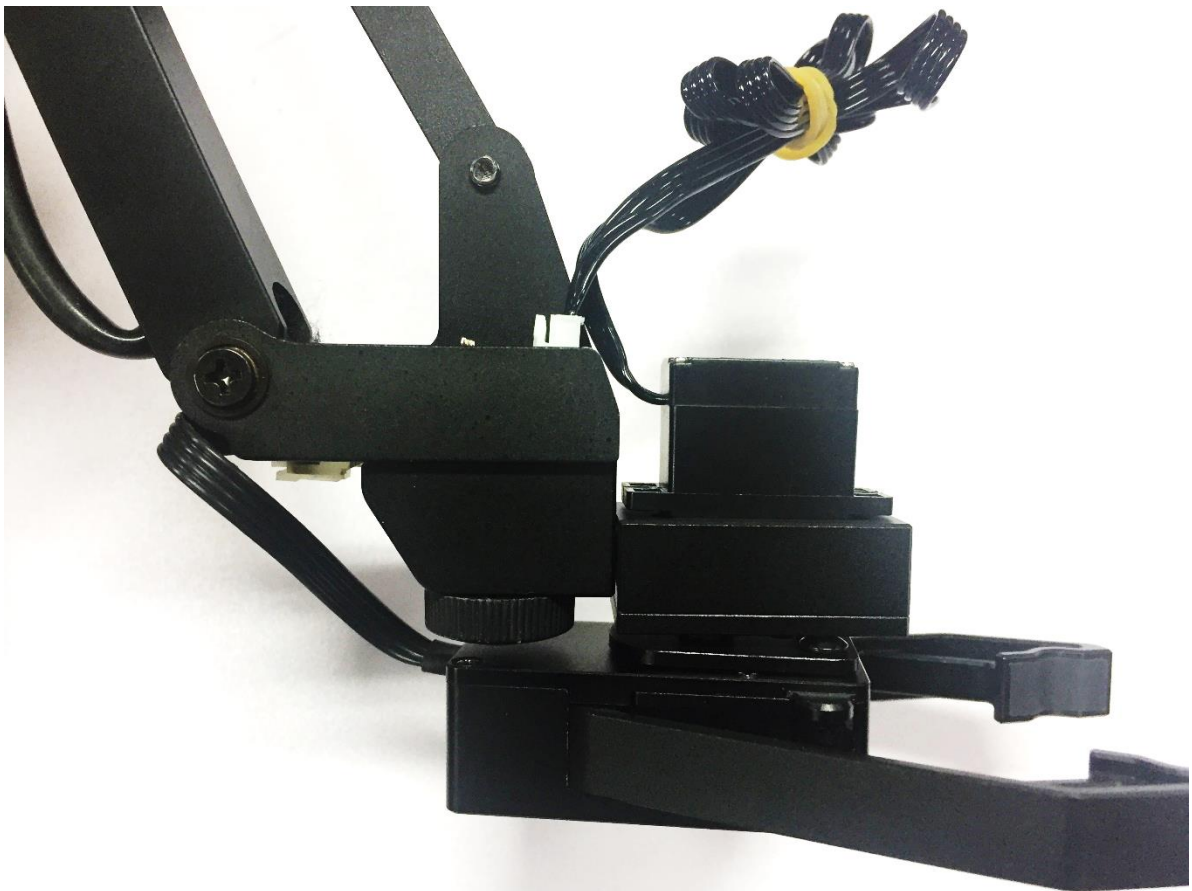
Step 1: Unscrew suction cup with the hex bar wrench.



Step 2: Fix the gripper and lock the nut tightly

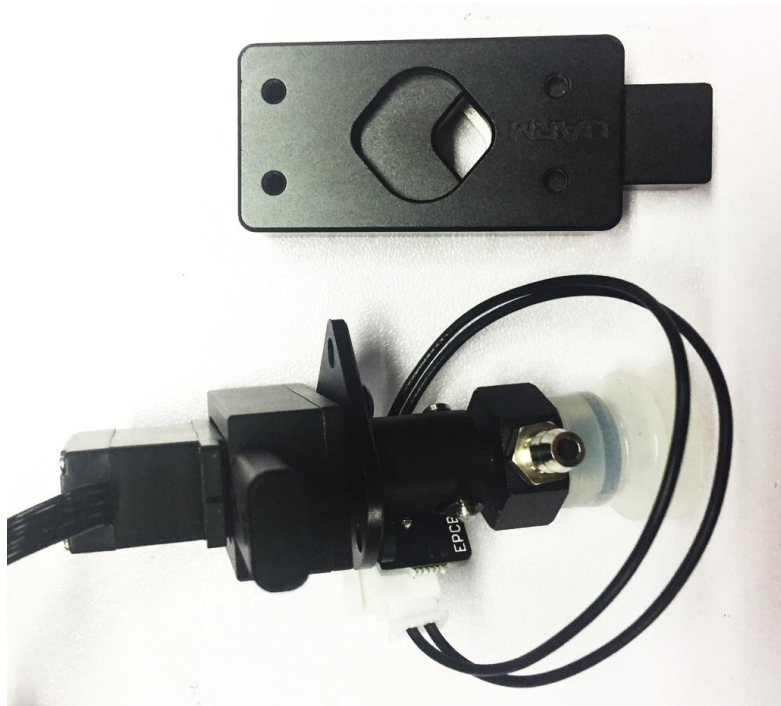


Step 3: Plug the 4th axis motor and gripper

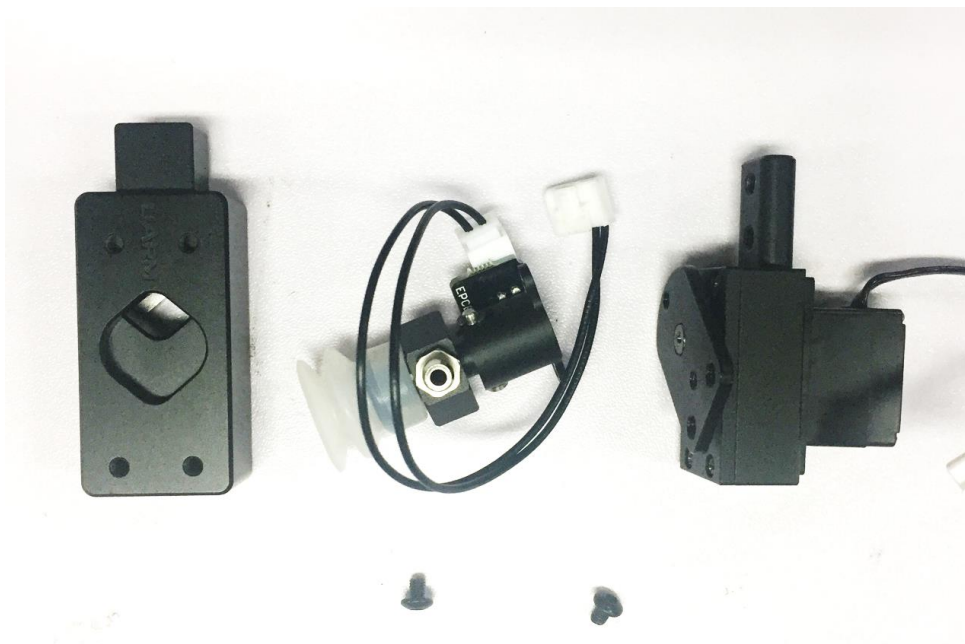


5. Swift Universal Holder

Preparation

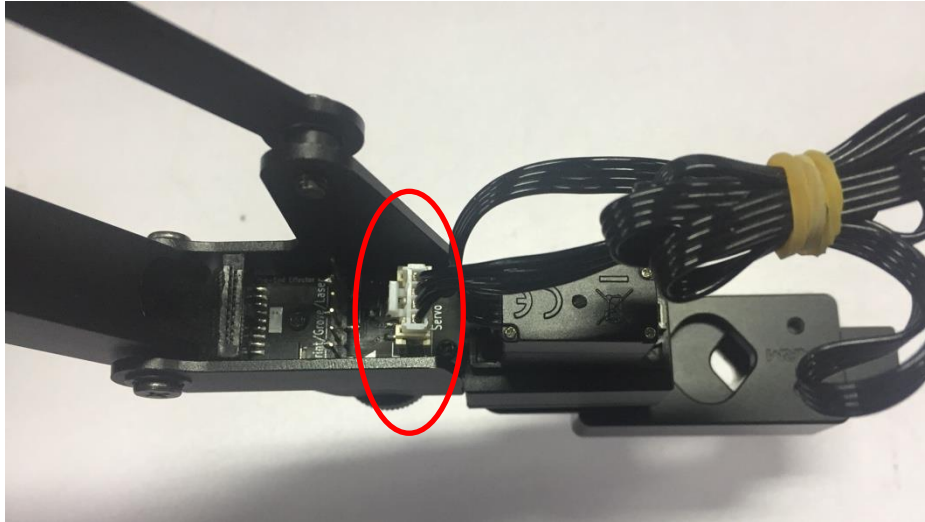


Step 1 : Unscrew suction cup with the hex bar wrench.



Step 2: Fix the gripper and lock the nut tightly

Step 3: Plug in the 4th axis motor

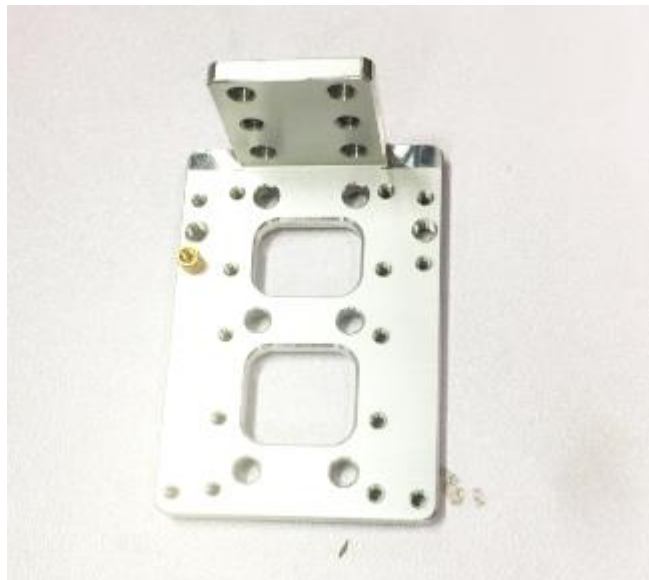


6. Seeed Grove Modules

Seeed Grove modules is a series of different sensors which helps us to extend the function of uArm to a completely new level. We are offering two parts to help you to connect the uArm with Grove much more easily.



Grove Extension



Grove mounting block

Caution:

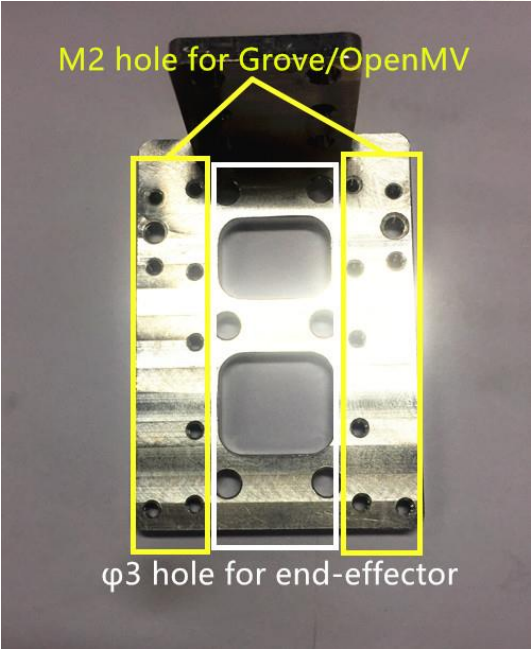
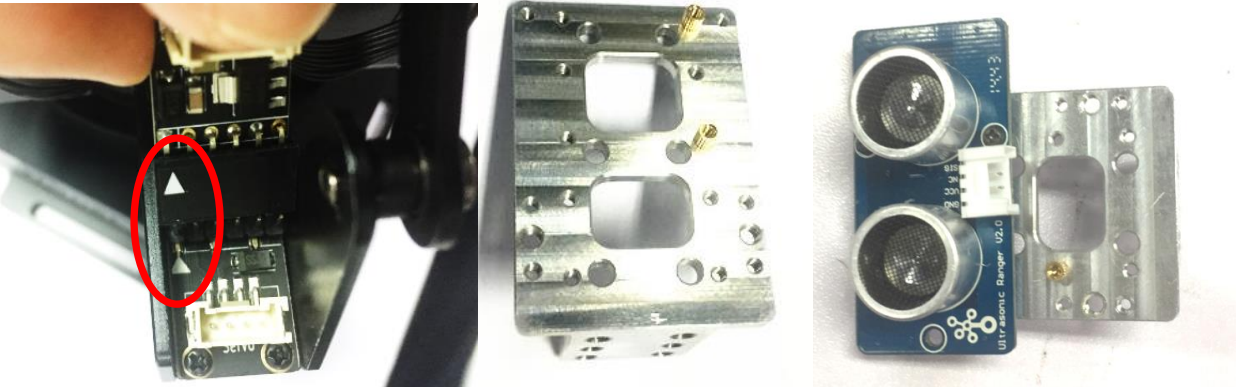
Grove extension for the uArm end-effector is just designed for(Step 1,2)

- *PIR Motion Sensor*
- *Mini Fan Module*
- *Electromagnet Module*
- *Ultrasonic Ranger*
- *Other Digital or Analog modules.*

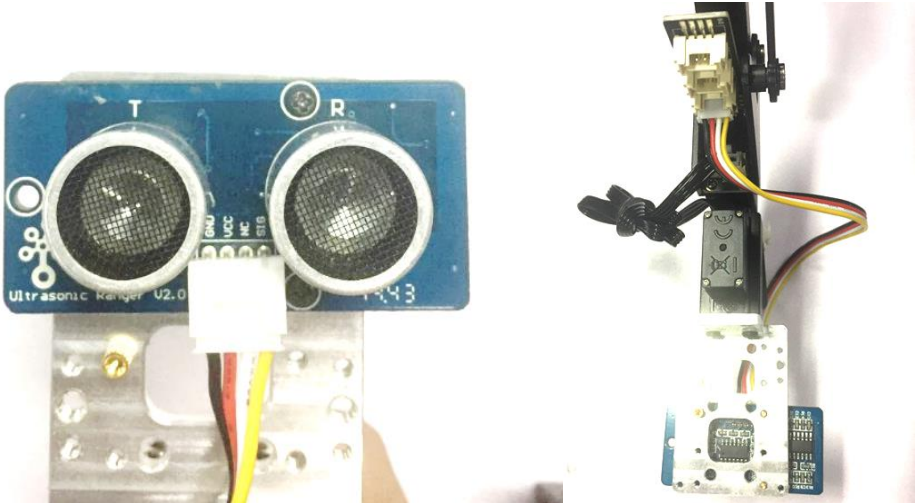
For the IIC module like: *(Step 3)*

- *Temperature Sensor*
- *LCD RGB Backlight Module*
- *Color Sensor*
- *Gesture Sensor*
- *Other Digital or Analog modules.*

Step 1 : Plug in the Grove breakout and fix the grove module to the mounting block.



Step 2 : Wiring.

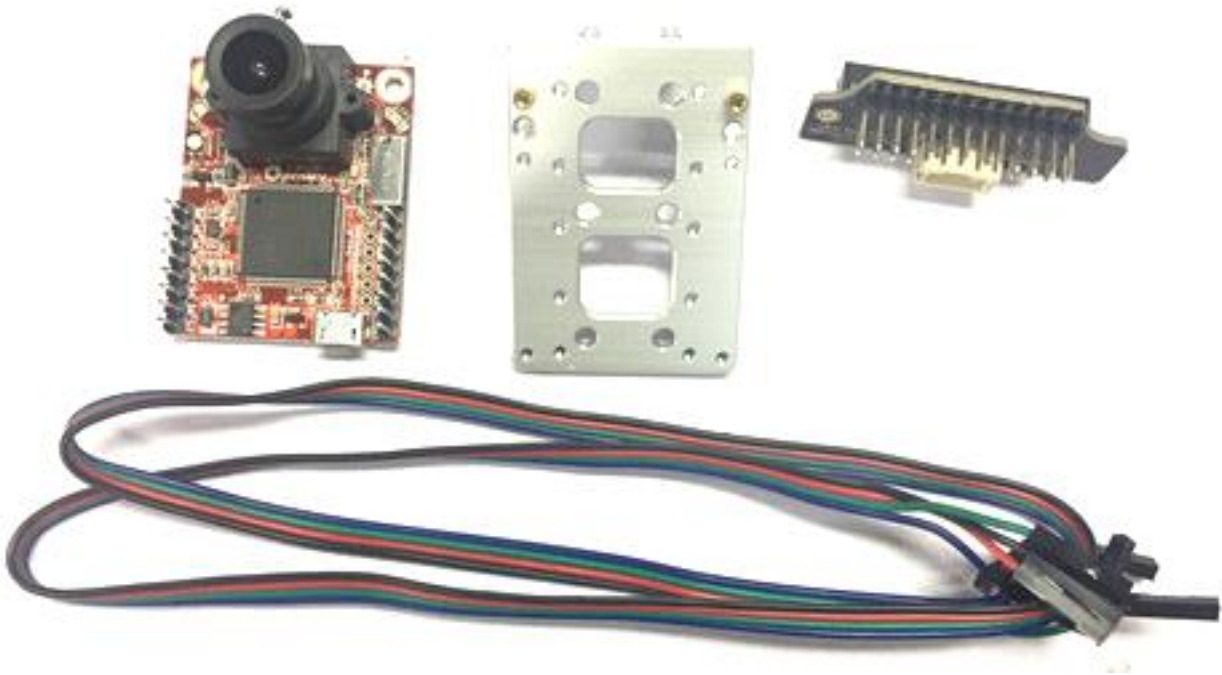


Step 3 : For the IIC modules

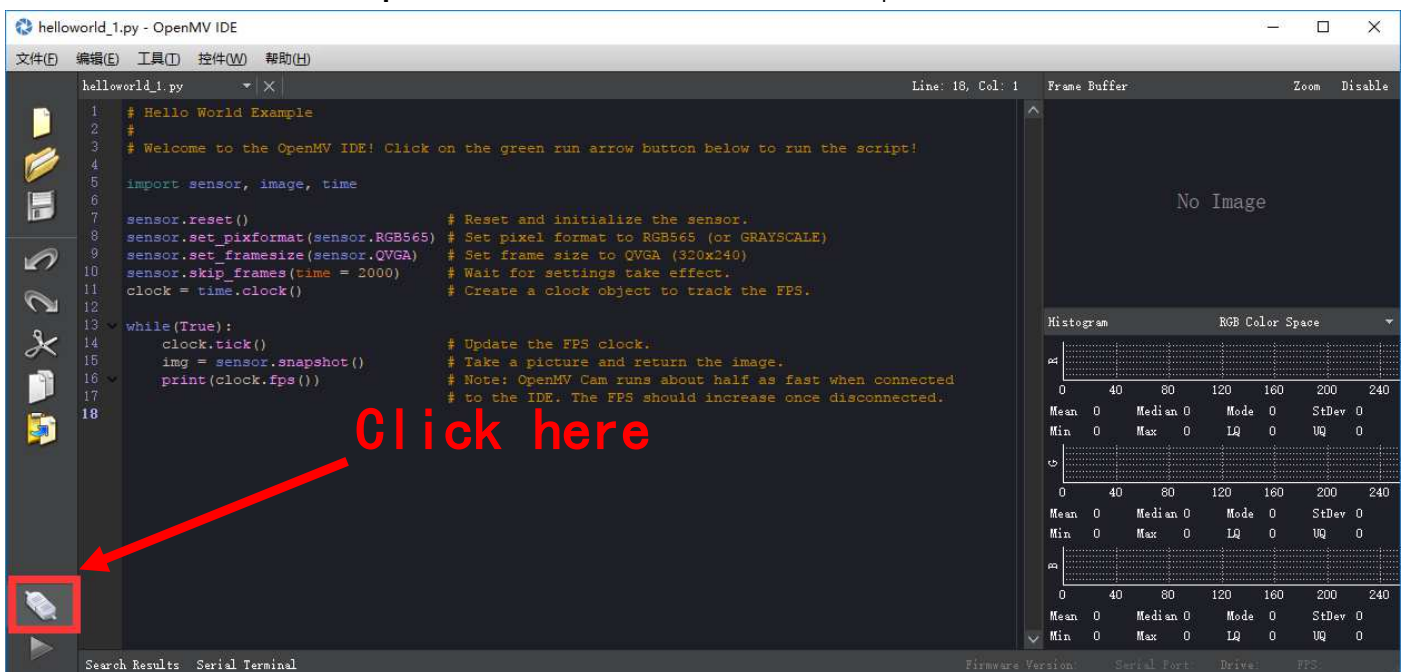


7. OpenMV Module (the firmware should be 3.1.9 or later)

Preparation

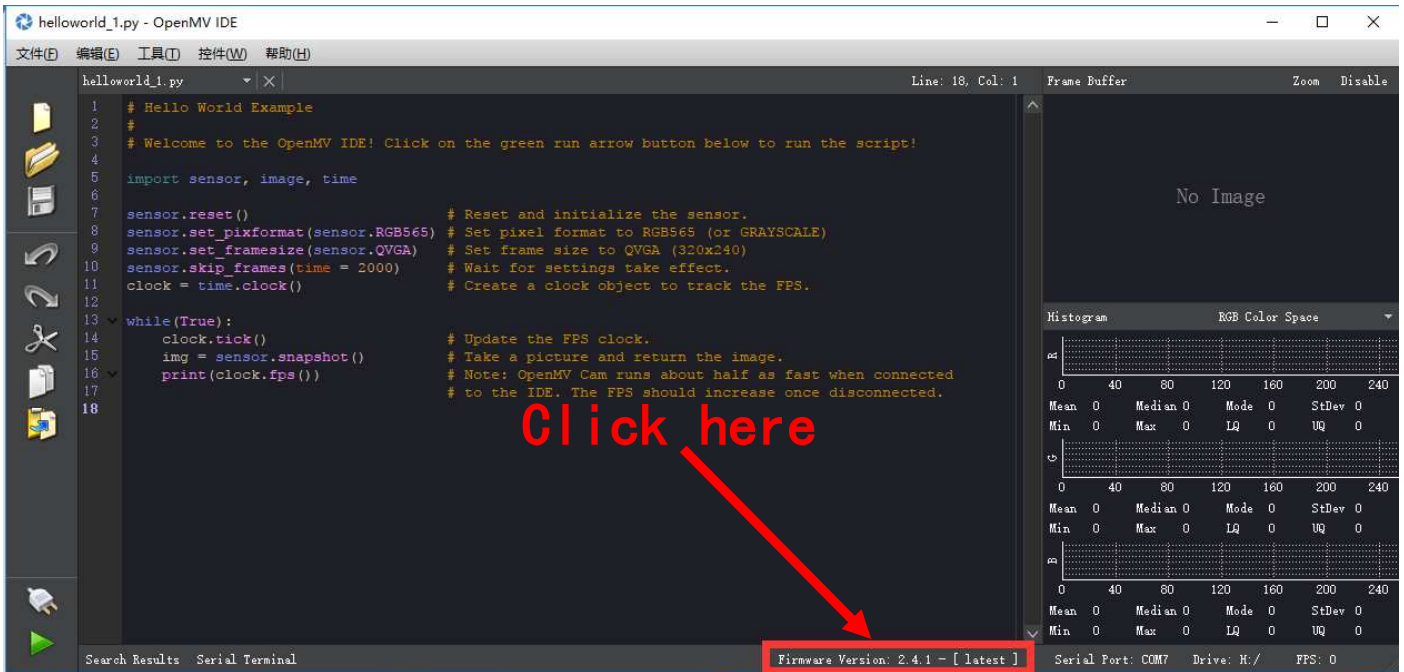


Step 1 : Download the latest OpenMV IDE

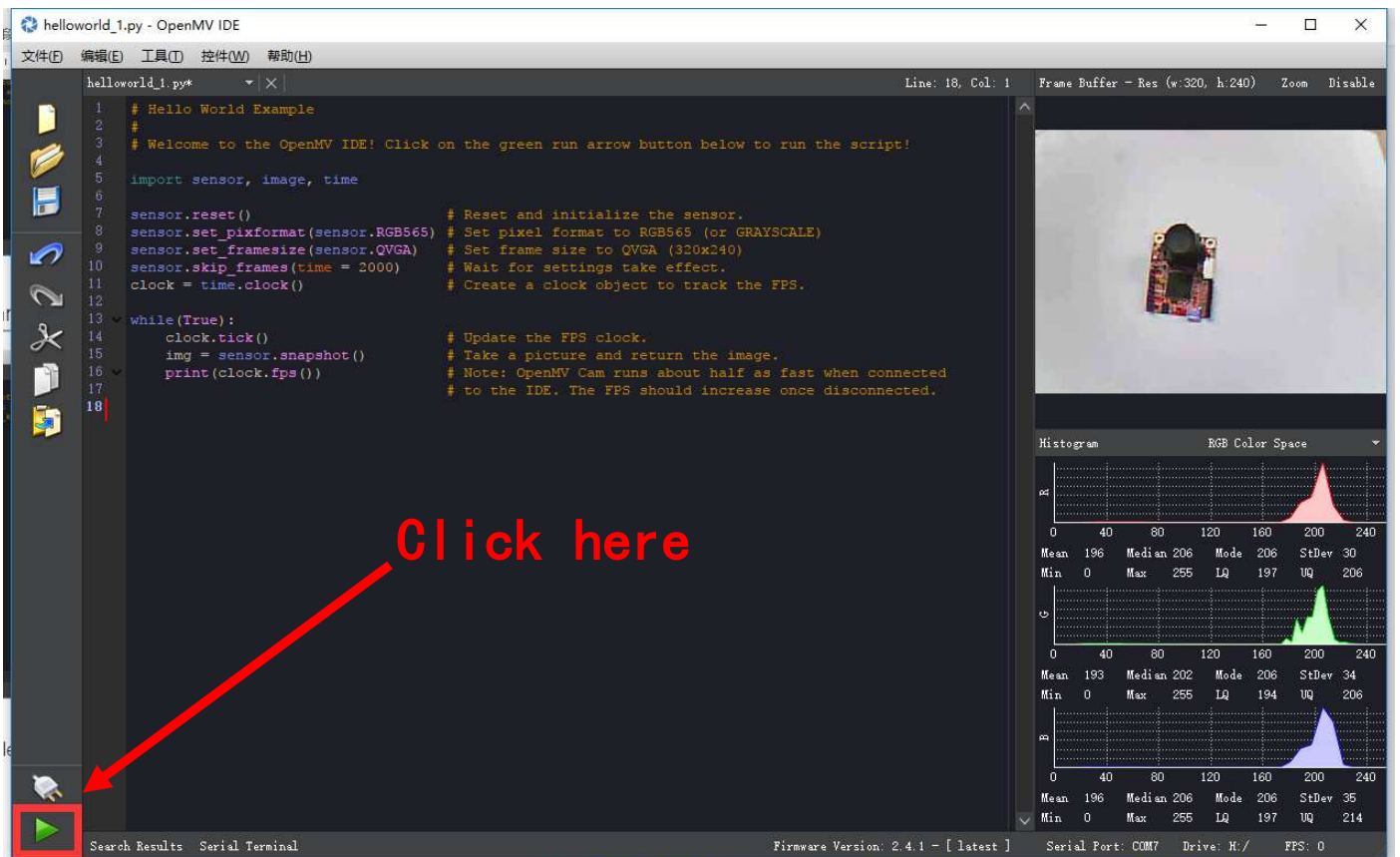


(Download the latest OpenMV IDE from: <https://openmv.io/pages/download> and plug in the OpenMV camera to the computer and click Connect in the left of picture)

Step 2 : Upgrade the latest firmware to OpenMV by OpenMV IDE

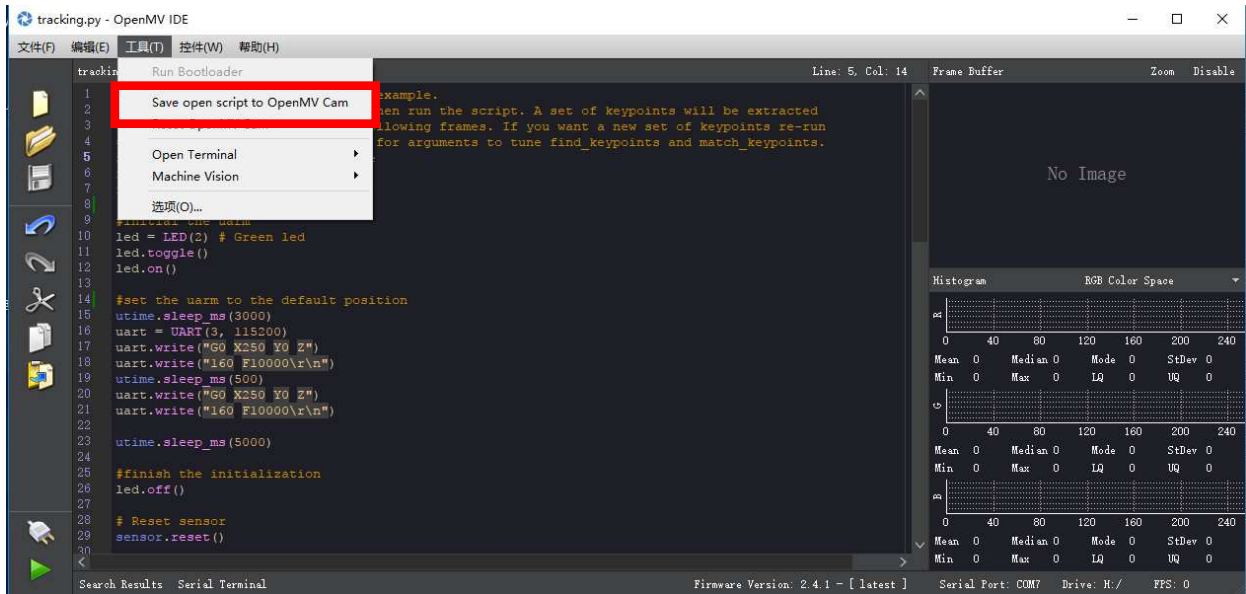


Step 3 : Run the helloworld.py and focus the lens in the right window



Note: After IDE get the video, then rotate the lens to finish focusing(to see the objects 20cm away) then tight the screw.

Step 4 : Get the tracking.py code and save it to the OpenMV

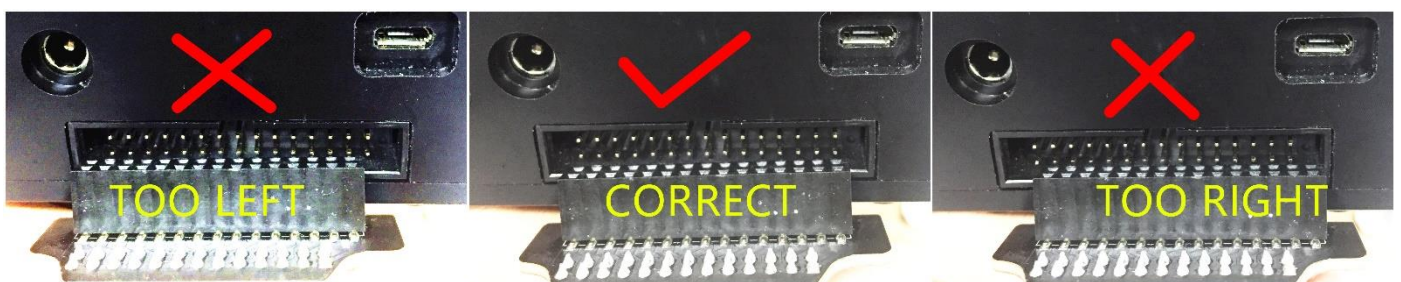
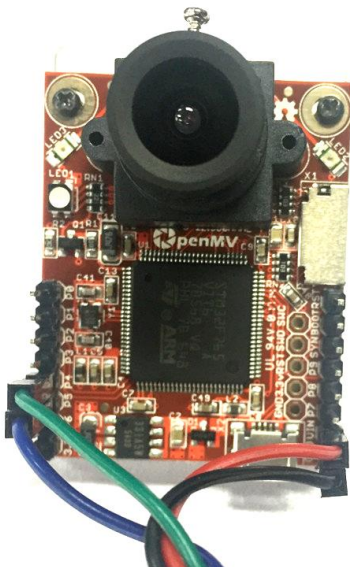


You could find the tracking.py from: <https://github.com/uArm-Developer/OpenMV-Examples>

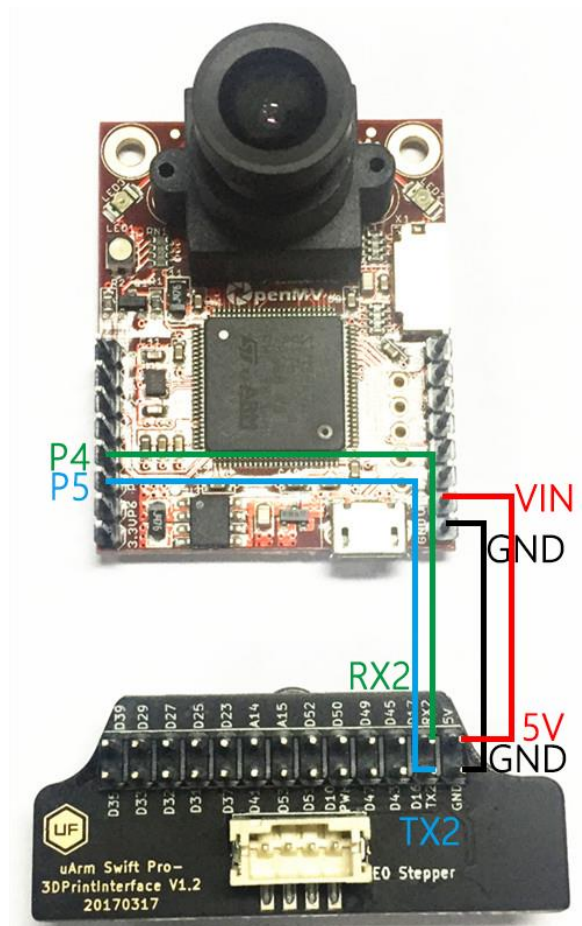
Note: The file system of OpenMV 2.4.1 is not very stable, and make sure the file has been stored into the module. Here is our steps:

- (1) Open the disk of OpenMV, and drag the tracking.py file into the disk and renamed it main.py;
- (2) If the code has been stored successfully, power on the module, the blue light turns on.

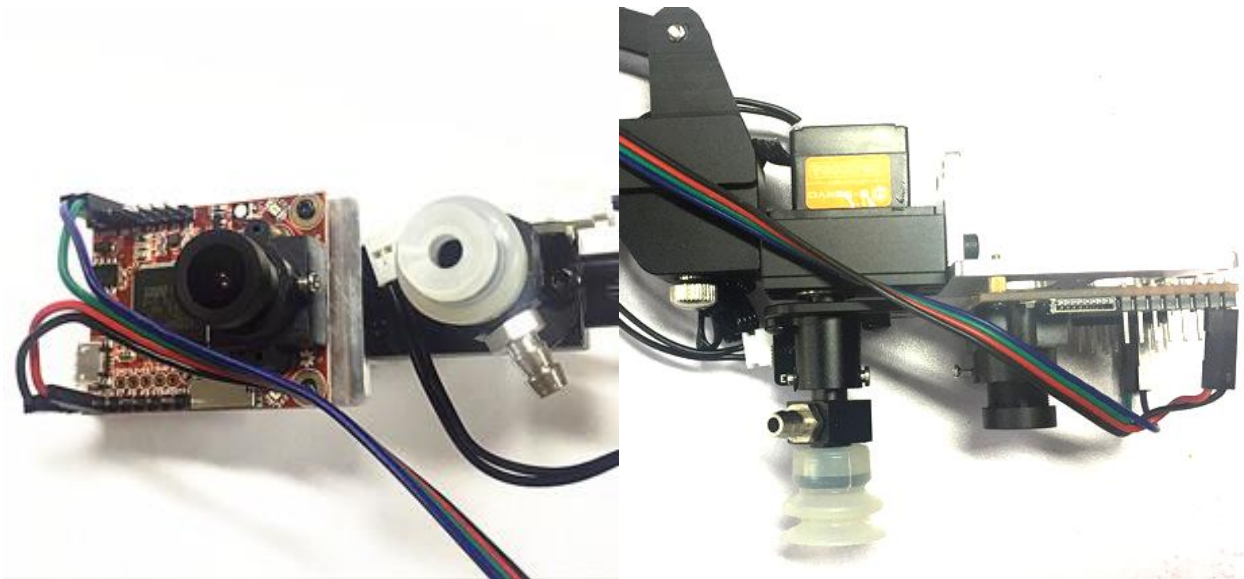
Step 5 : Unplug the OpenMV module and wiring the module



Caution: Please ensure the connection is correct. Or the computer wont recognize the uarm.



Step 6 : Install the camera module to the end-effector



Note: Please pay attention to the assembling direction of OpenMV, or the arm will move to the opposite direction. And make sure the OpenMV is disconnected with you PC or the IDE will control the OpenMV.