Electrical Interface

1 Electrical Interface of the Base

1.1 Base

A. The lateral interface, screen and buttons of the base are shown on Figure 2-3:

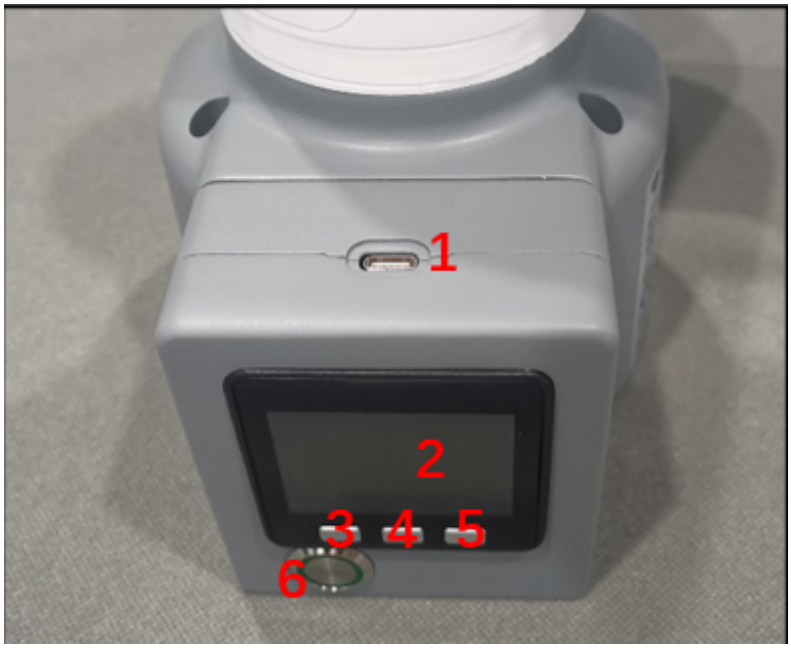


Figure 2-3 Front view of the base

B. The interface on the left side of the base is shown on Figure 2-4:

Figure 2-4 Left side view of the base

C. The interface on the right side of the base is shown on Figure 2-5:

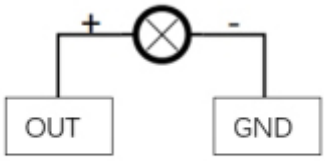
Figure 2-5 Right side of the base

1.2 Ports of Base Interface

Number	Interface	Definition	Function	Remarks
1	Type C	Communication Interface	Communicate with PC	development use
2	screen	displaying	Use with buttons	
3	button	button A	Use with the display	
4		button B		
5		button C		
6	switch	switch for power	Control input power on and off	With lights (lights on)
7	DC/IO interface	GND	GND	
		IN6	Digital input signal 1~6	Input only in NPN mode

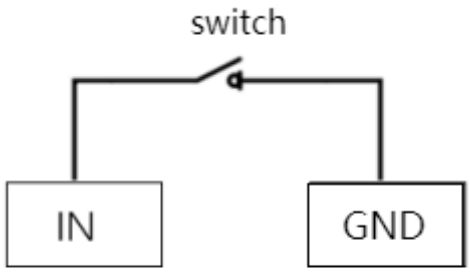
Number	Interface	Definition	Function	Remarks
		IN5		
		IN4		
		IN3		
		IN2		
		IN1		
		24V	DC24V	
8	Type C	Communication Interface	Communicate with PC	development use
9	Power DC input interface	DC24V input	DC24V input	
10	DC/IO interface	24V	DC24V	
		OUT1	Digital output signal 1~6	PNP mode only
		OUT2		
		OUT3		
		OUT4		
		OUT5		
		OUT6		
		GND	GND	
11	Emergency stop interface	STOP	Emergency stop circuit interface	

1. Type C interface is used to connect and communicate with the PC, available for developers.
2. Screen is used to display the communication status of myCobot and calibrate the robot move to starting point with a 2-inch IPS screen.
3. Button A, Button B and Button C is used to work with the screen in a coordinated way.
4. Power switch is used to control the main power input. If it is switched off, the controller is also powered off.
5. 24V output: Internal DC24V, available for users.
6. Digital Input/Digital Output includes 6 digital input signals and 6 digital output signals. They are mainly used to interact with and constitute an important part of the automation system with other devices. It should be noted that the output signal is in the form of PNP. The following picture is a schematic diagram of the external wiring:



Example of Output Signal Wiring

- The input signal is in NPN form, the following picture is the schematic diagram of external wiring:



Example of Input Signal Wiring

- Power DC input interface:

  It uses KPPX-4P R7BFDC power socket. The 24V10A DC power adapter provided by the manufacturer can also be used to power myCobot320.

- Emergency stop circuit terminal is connected to the emergency stop button box, which can be used to control the emergency stop of the robot.

> **Notice**: The emergency stop switch must be connected when the robot is in use, and make sure that the emergency stop switch circuit is always connected.

2 Electrical Interface at the end of the Robot Arm

2.1 End of the Robot Arm

A. The the end interfaces are shown in Figure 2-12 and Figure 2-13:

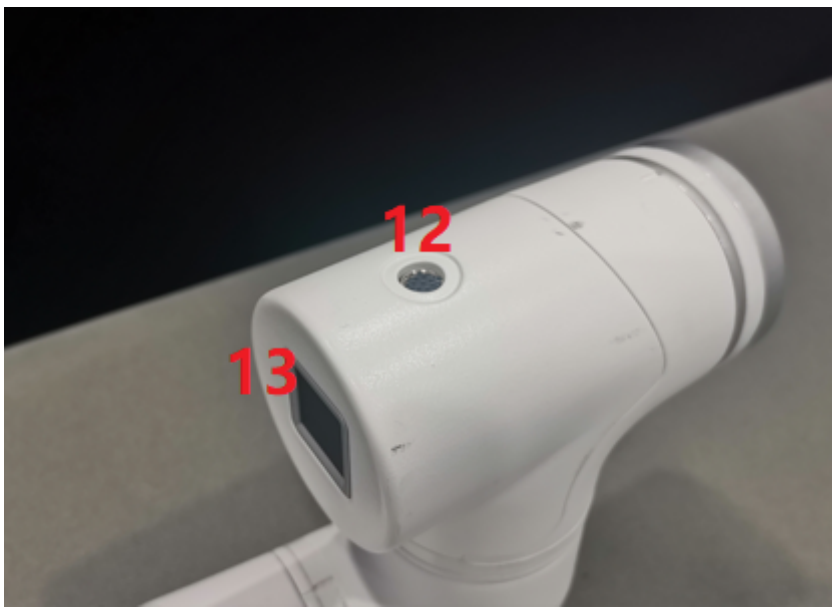


Figure 2-12 side view of the end of the robot arm

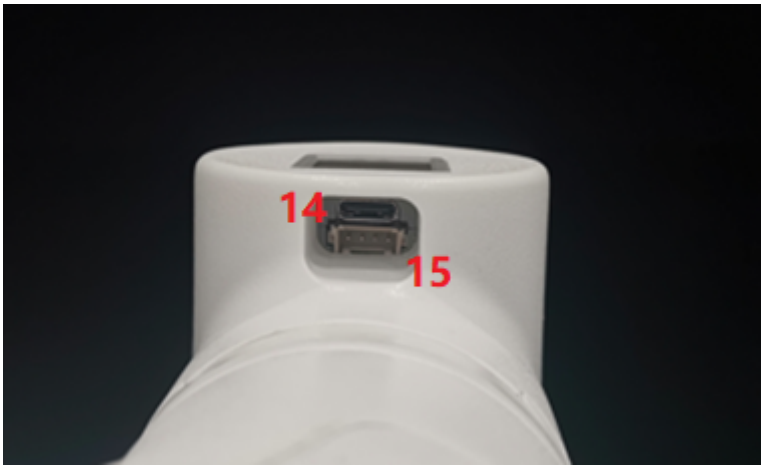
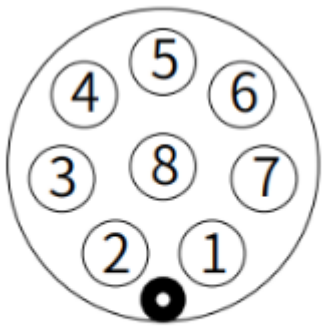


Figure 2-13 side view of the end of the robotic arm

2.2 Terminal Interface

Number	Interface	Definition	Function	Remark
12	M8 aviation socket	End tool IO interface	Interact with external devices	
13	Atom	Led + button	Status view/drag to teach	
14	Type C	Communication Interface	Communicate with PC	Update Atom firmware using
15	Grove			developers use

1. IO interface. The tool I/O diagram is shown on the figure below. myCobot 320 robot has one-way input and two-way output.



FRONT VIEW

Tool I/O Diagram

The definition of each tool I/O port is shown in the table below. Note that both the input and output of the I/O are in a form of PNP. and the wire connection method is as same as the bottom output interface.

Number	Signal	Explanation	Matchable Color of M8 Line
1	GND	DC24V negative pole	White
2	OUT1	Tool output interface 1	brown
3	OUT2	Tool output interface 2	green
4	485A	reserved, undeveloped	yellow
5	24V	DC24V positive	Ash
6	IN1	Tool input interface 1	pink
7	IN2	unavailable	blue
8	485B	reserved, undeveloped	purple

1. Atom is used for 5X5 RGB LED to display the state of the robot arm and key function (used when the robot performs the drag teaching)