



LT-4LDS-V2 USER MANUAL (V1.1)

CONTENT

| | | |
|----------|---------------------------------------|----|
| 1 | PRODUCT INTRODUCTION | 1 |
| | Parameters | 1 |
| | Outline dimension | 2 |
| | Packing list | 3 |
| 2 | PRODUCT DESCRIPTION | 4 |
| | Overview | 4 |
| | Driver adapter | 5 |
| | Sliding plate | 6 |
| | PIN definition | 7 |
| 3 | CONNECTION DESCRIPTION | 8 |
| 4 | FOCUS REFERENCE SETTINGS | 12 |
| | For cutting | 12 |
| | For engraving | 13 |
| 5 | PRECAUTIONS | 14 |
| 6 | MAINTENANCE | 14 |

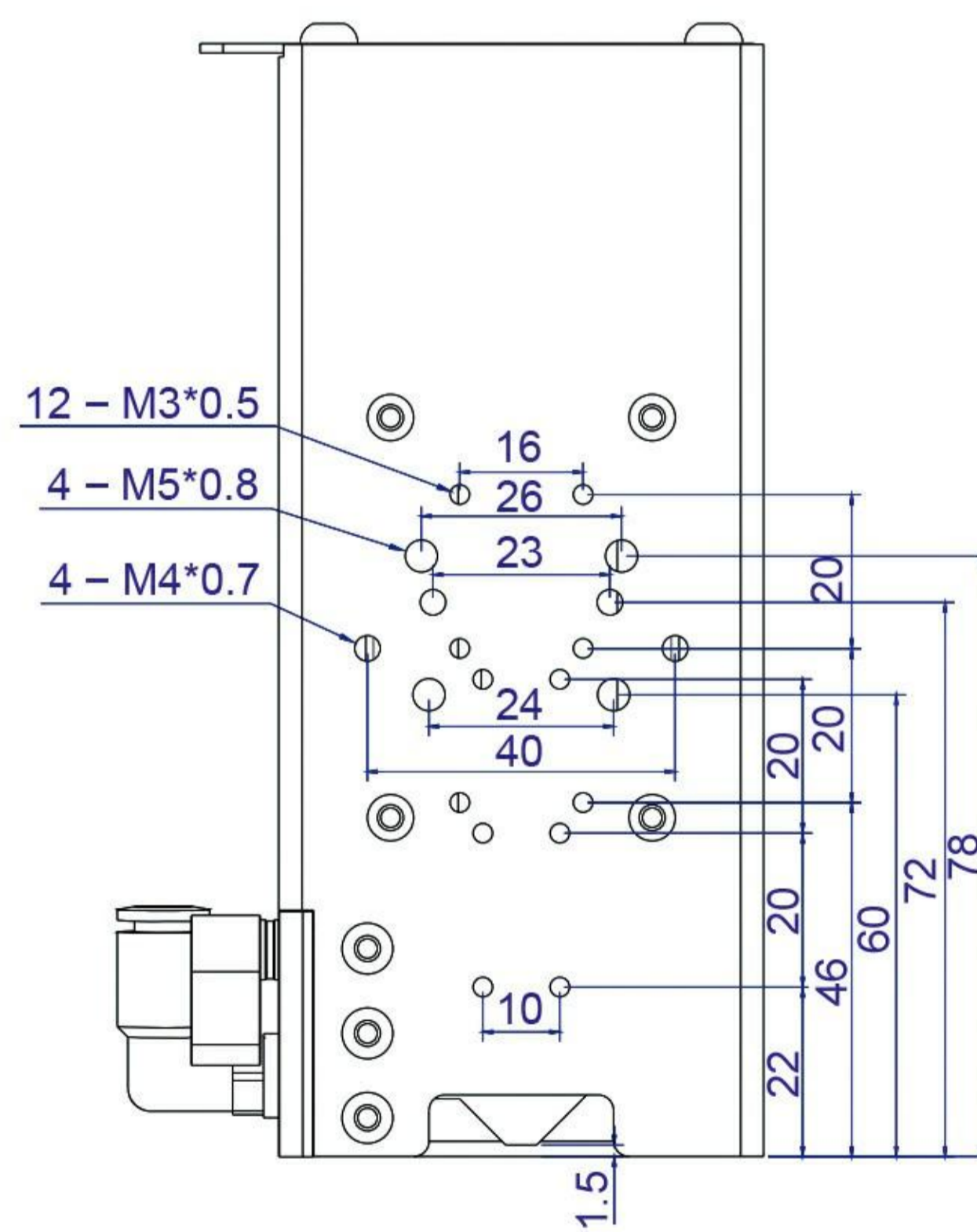
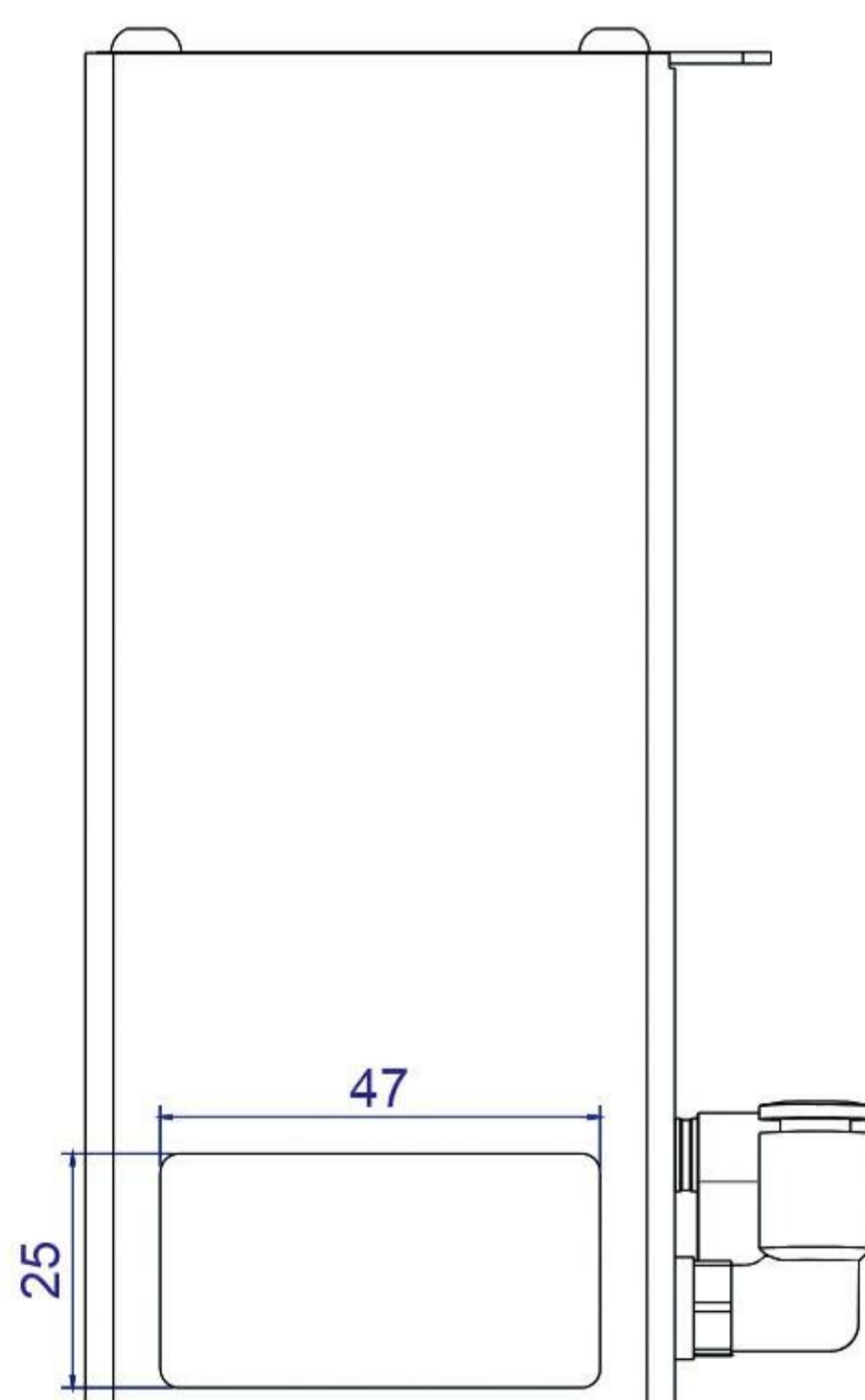
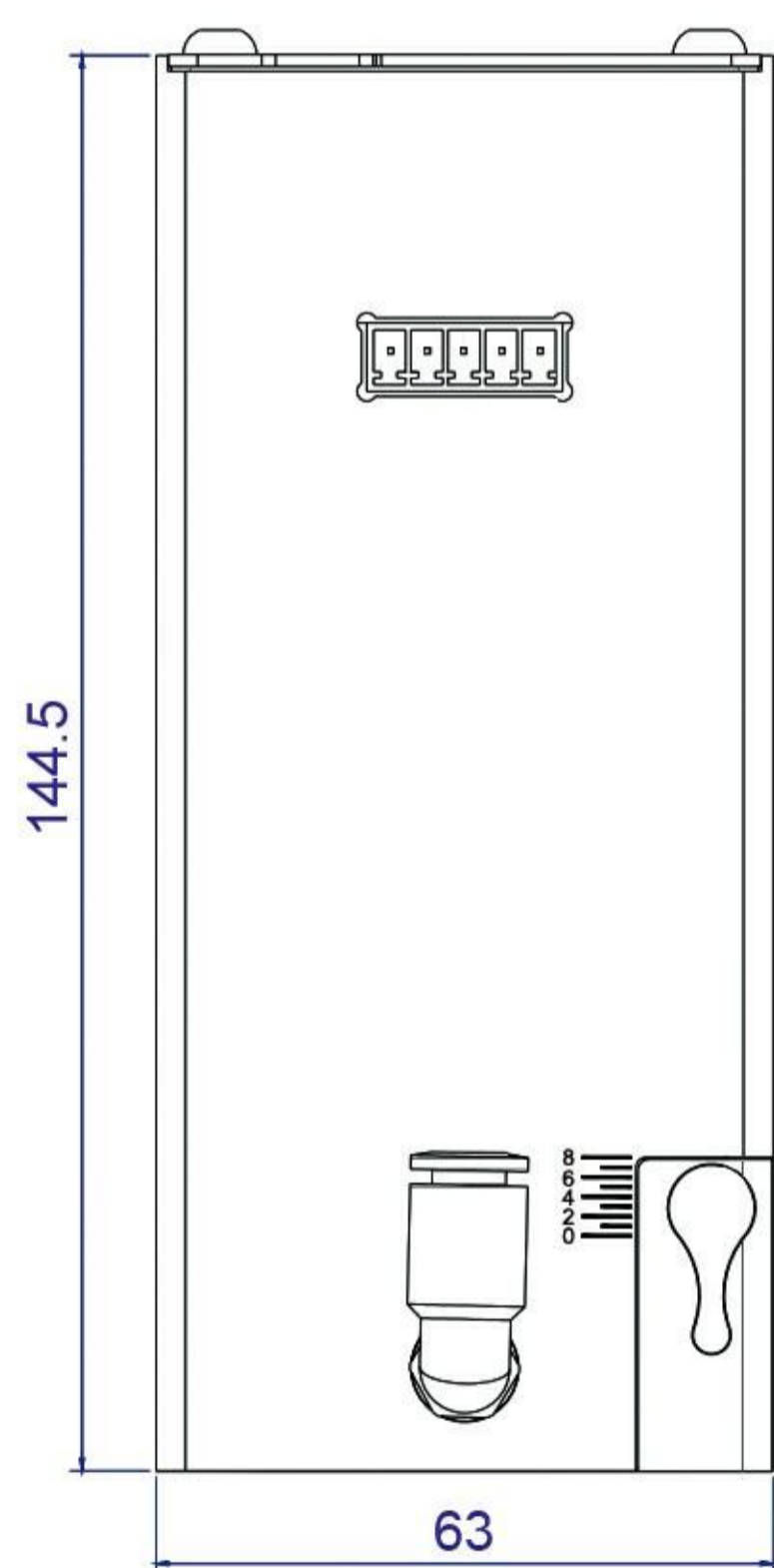
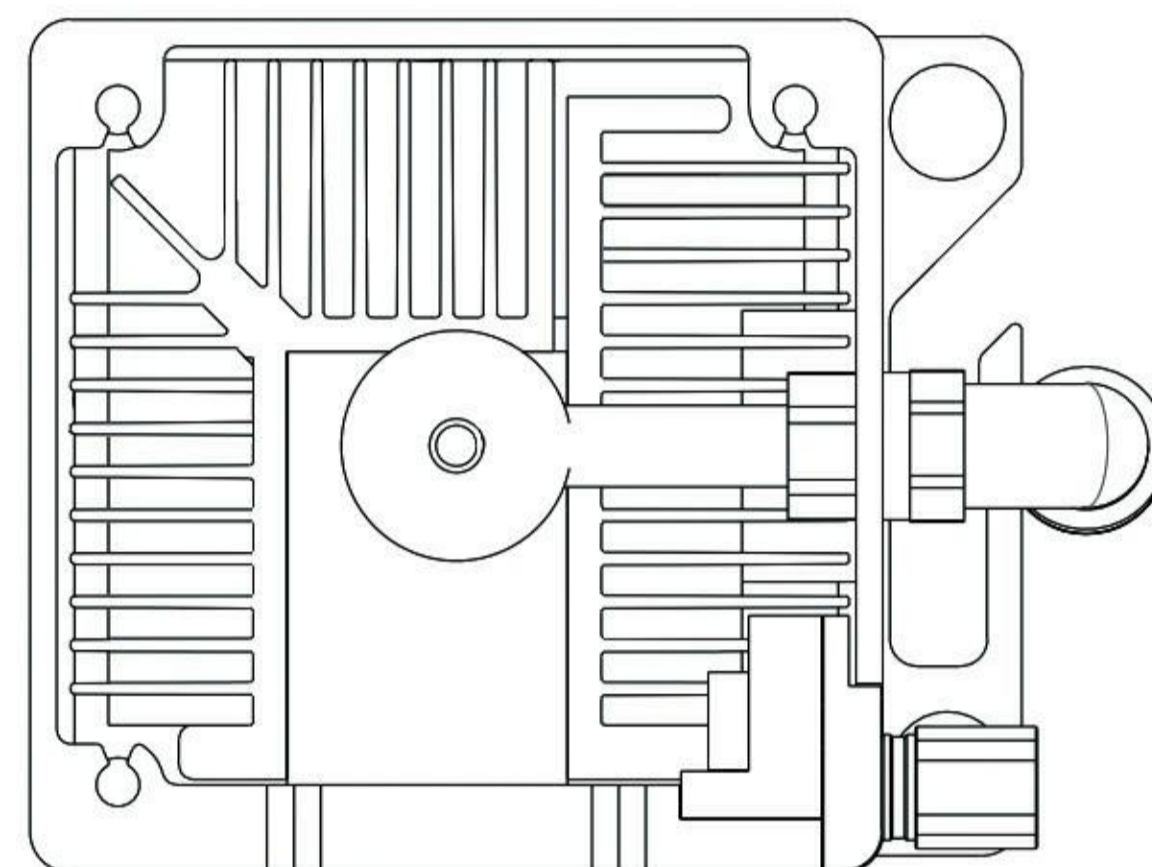
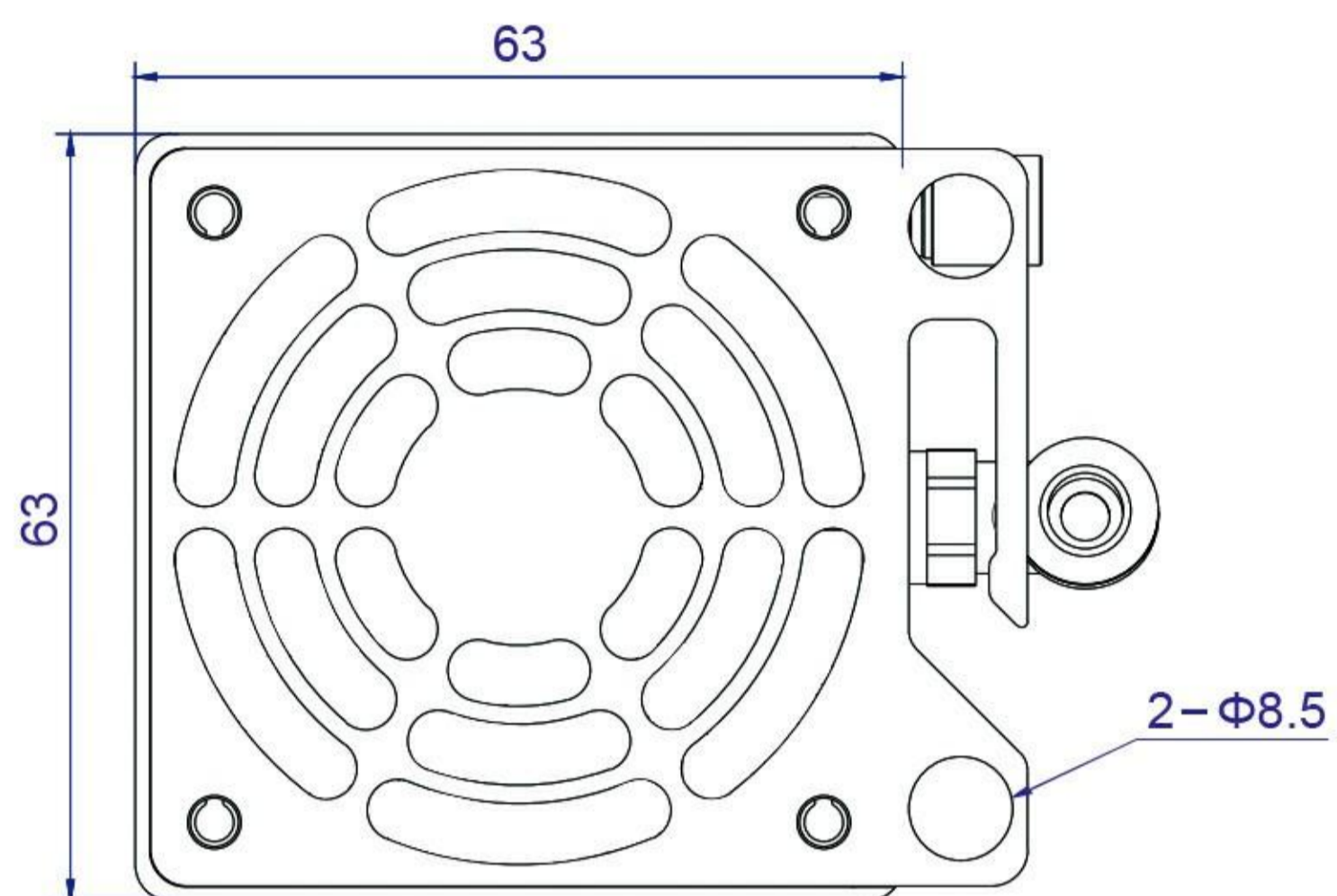
1. PRODUCT INTRODUCTION

Parameters

| | |
|------------------------|----------------------|
| Optical power: | 19W - 21W |
| Input: | 24V 4A |
| Wavelength: | 450nm (± 10 nm) |
| Focus length: | 40mm |
| Air assistance: | Built-in |
| Power adjustable: | TTL/PWM |
| PWM modulation: | 0/3-12V, 0-5kHz |
| Fan speed: | 10000rpm |
| Operating temperature: | 0-60°C |
| Interface: | 2EDG-3.81 |
| Cable: | 3PIN, 80cm |
| Material: | Aluminum & Copper |
| Module weight: | 620g |
| Function: | Engraving & Cutting |



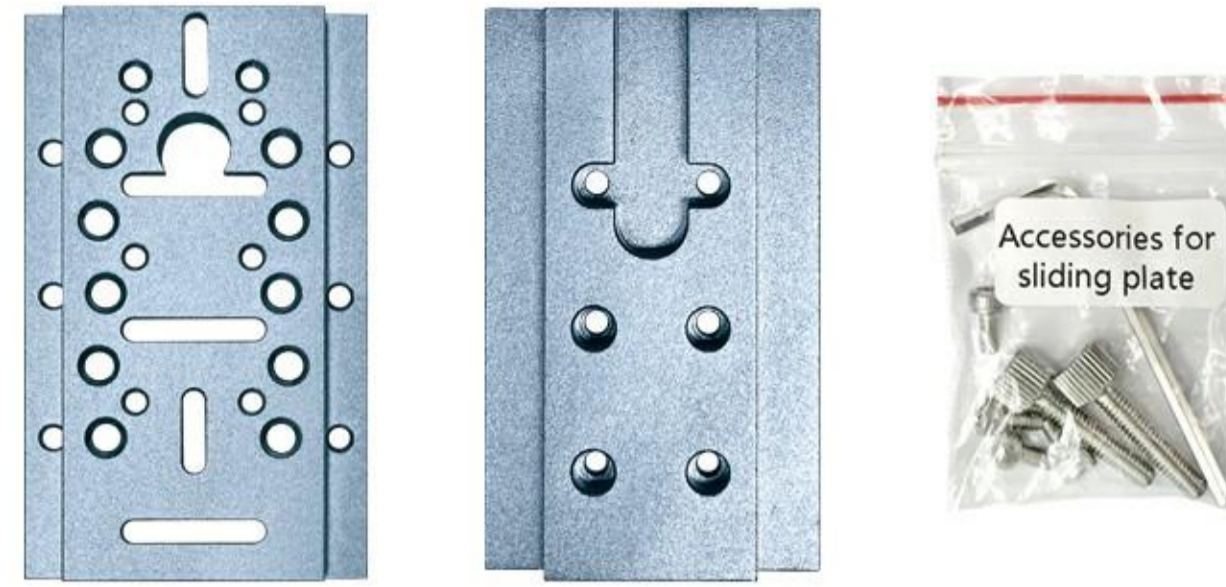
Outline dimension (Unit: mm)



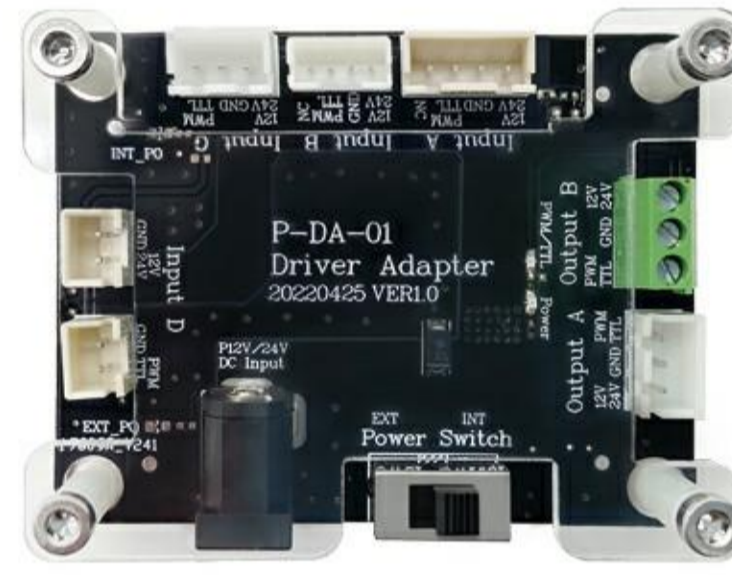
 Packing list



Laser module



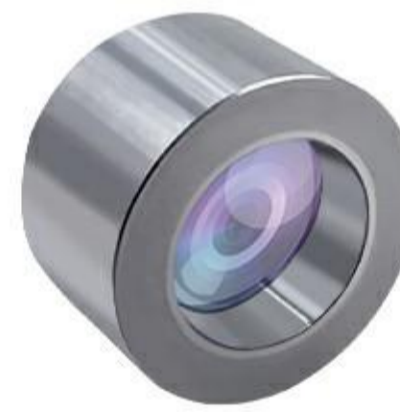
Sliding plate



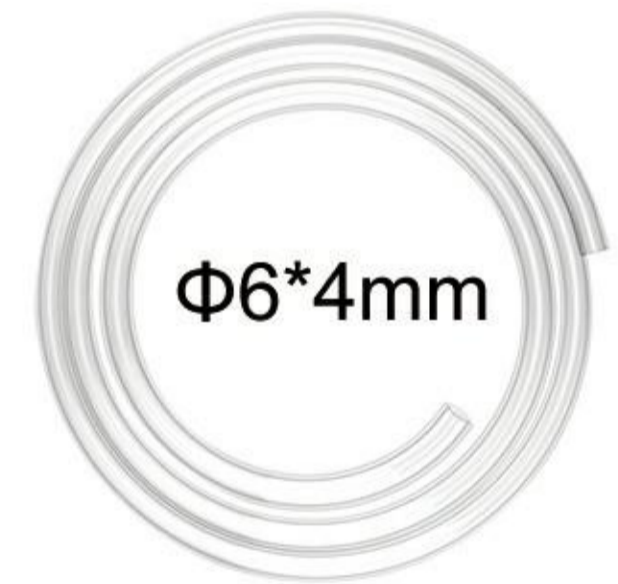
Driver adapter



24V5A power supply



Spare protective lens



1.5m Air tubex1



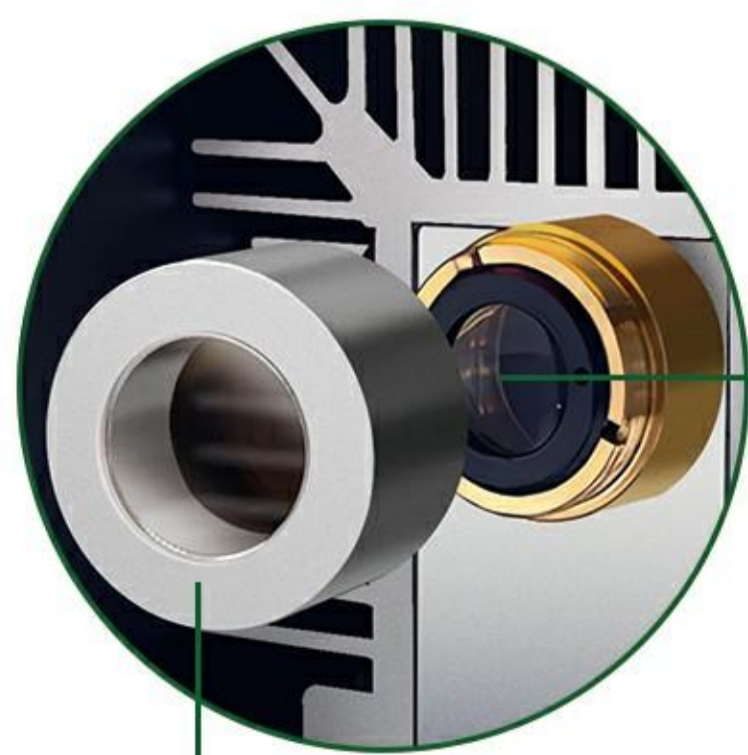
80cm Input cable



60cm Adapter cable

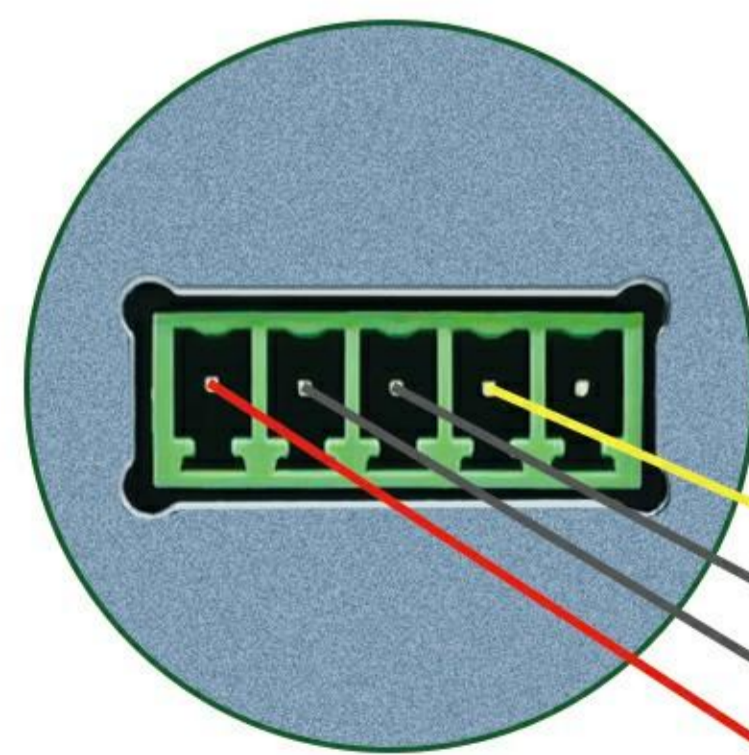
2. PRODUCT DESCRIPTION

Overview



Focus lens

Protective lens



Input port

TTL/PWM

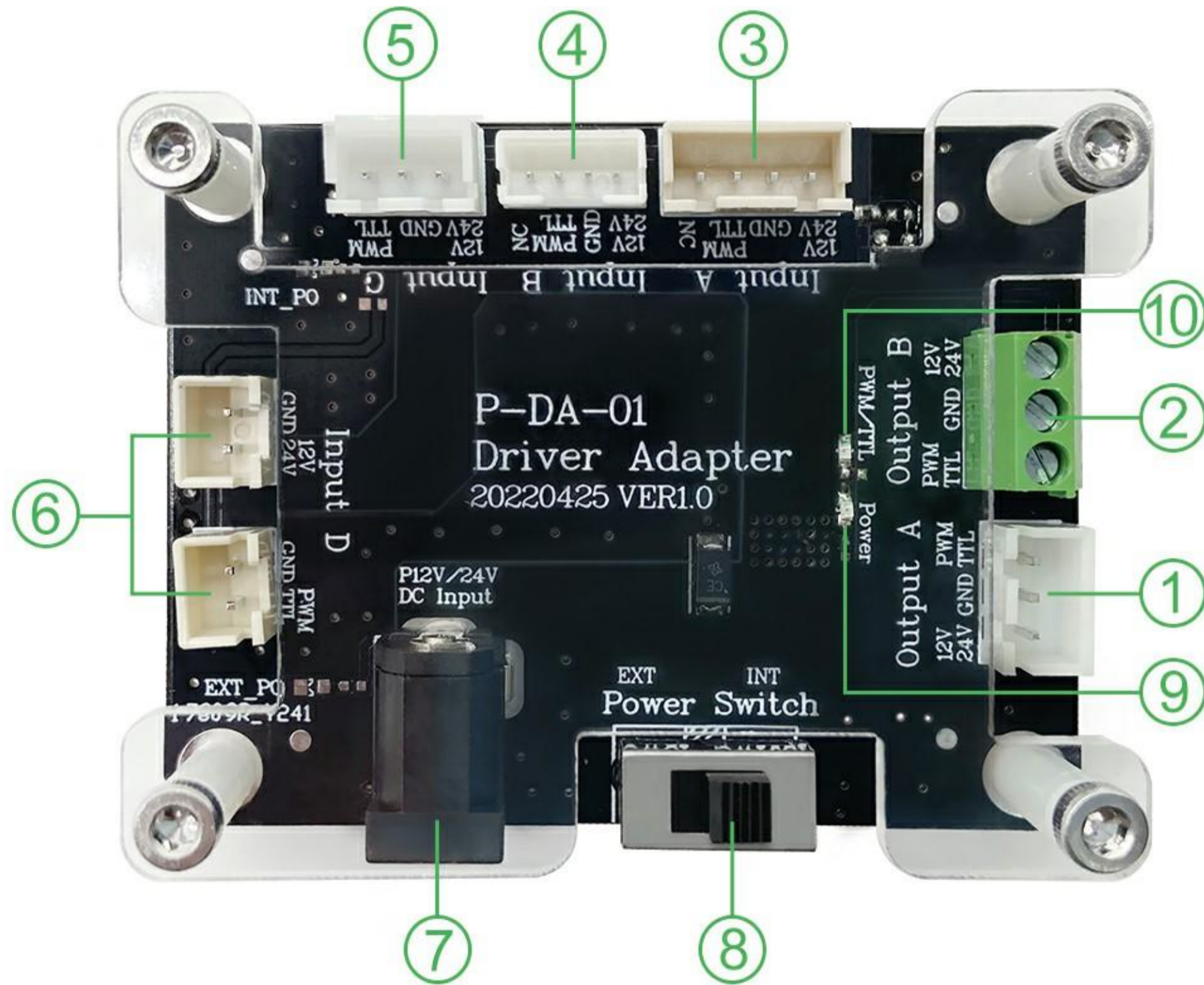
GND

GND

Vcc (24V4A DC)

Use 2EDG3.81 pluggable connector.

 Driver adapter

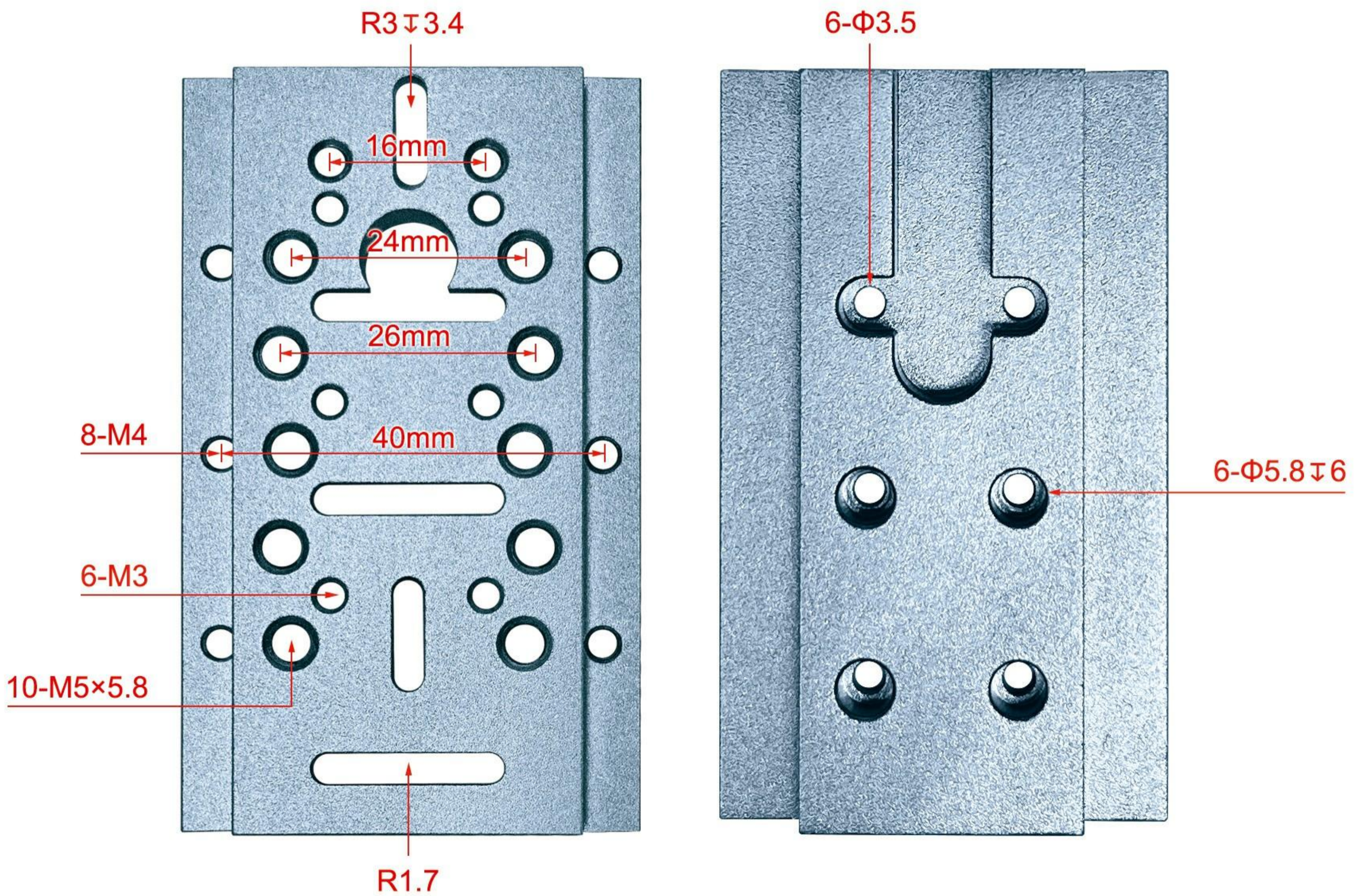


| | |
|---|----------------------------|
| ① Output A: 3PIN connector | ② Output B: 3PIN connector |
| ③ Input A: 4PIN connector | ④ Input B: 4PIN connector |
| ⑤ Input C: 3PIN connector | ⑥ Input D: 2PIN connector |
| ⑦ DC Input: 12V or 24V power adapter | |
| ⑧ Power Switch: • EXT→External power supply • INT→Internal power supply | |
| ⑨ Power indicator: It is red when the power cable is connected correctly. | |
| ⑩ TTL/PWM indicator: It is green when the TTL/PWM cable is connected correctly. | |

Sliding plate

Multiple holes bring you widely installation compatibility.

Outline dimension (Unit: mm)



Accessories for sliding plate



M3x6 Fasten screw*4

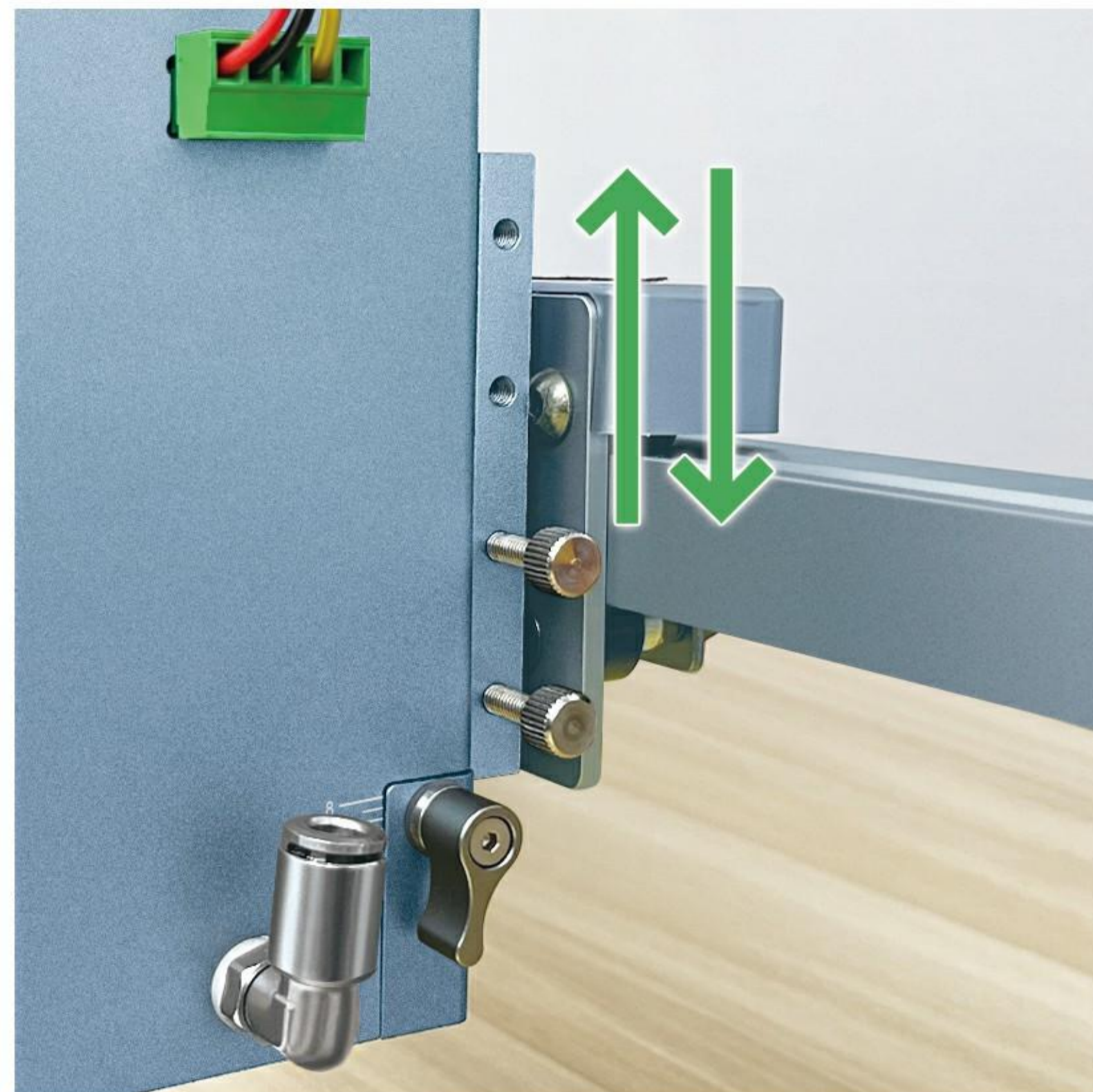


M4x20 Fasten screw*2



2.5mm L-wrench

Installation for sliding plate



≡ PIN definition



80cm Input cable



60cm Adapter cable

Yellow wire: PWM

Black wire: GND

Red wire: Power (24V)

3. CONNECTION DESCRIPTION

Please check whether the laser module is compatible with your engraving machine before connection.

A. Check the voltage parameter of you engraving machine.

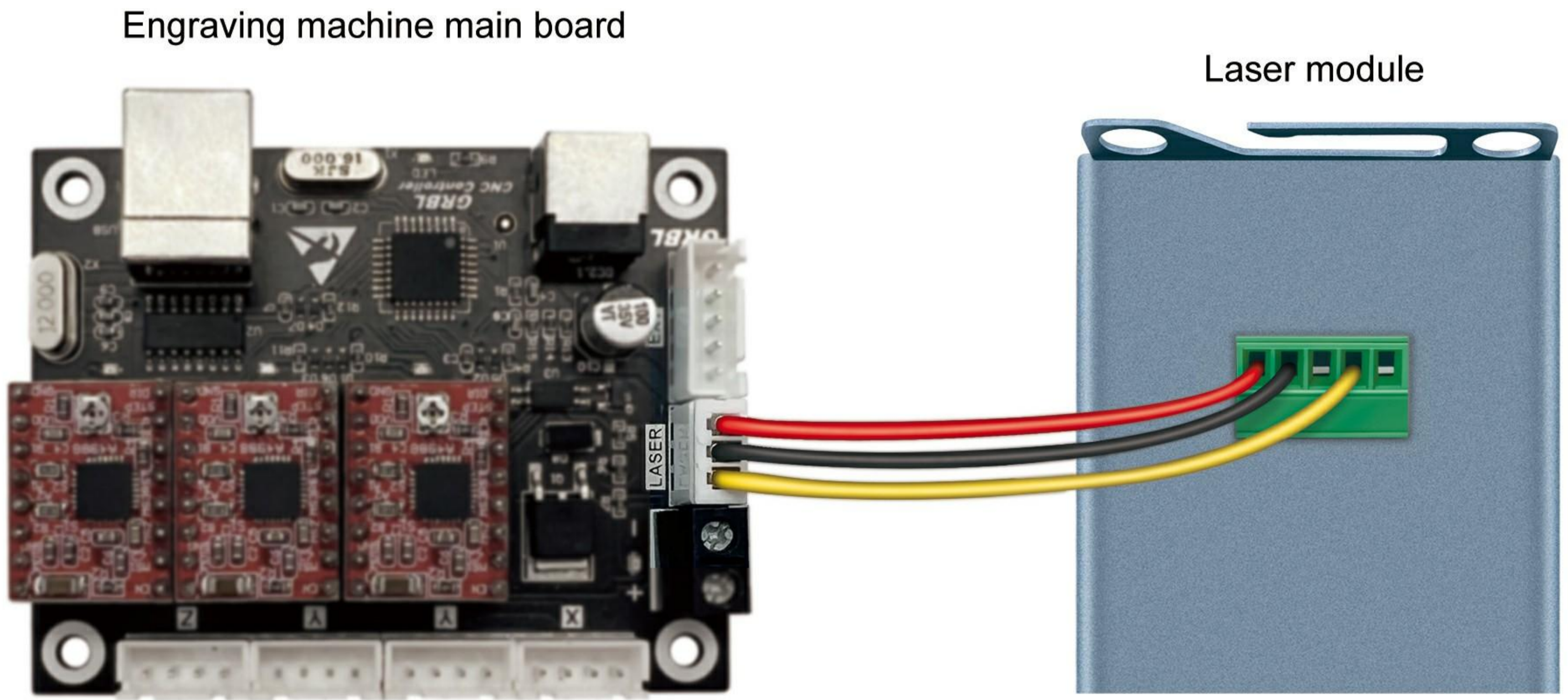
Please ensure your engraving machine can provide at least 24V 4A power supply.

B. Check the port of the main control board on your engraving machine.

Please find the PWM port, GND port and VCC port on the main board of your engraving machine. Then connect this laser module to the main board accordingly.

● “A” & “B” are both compatible.

Connect the laser module to the main board of your engraving machine directly.



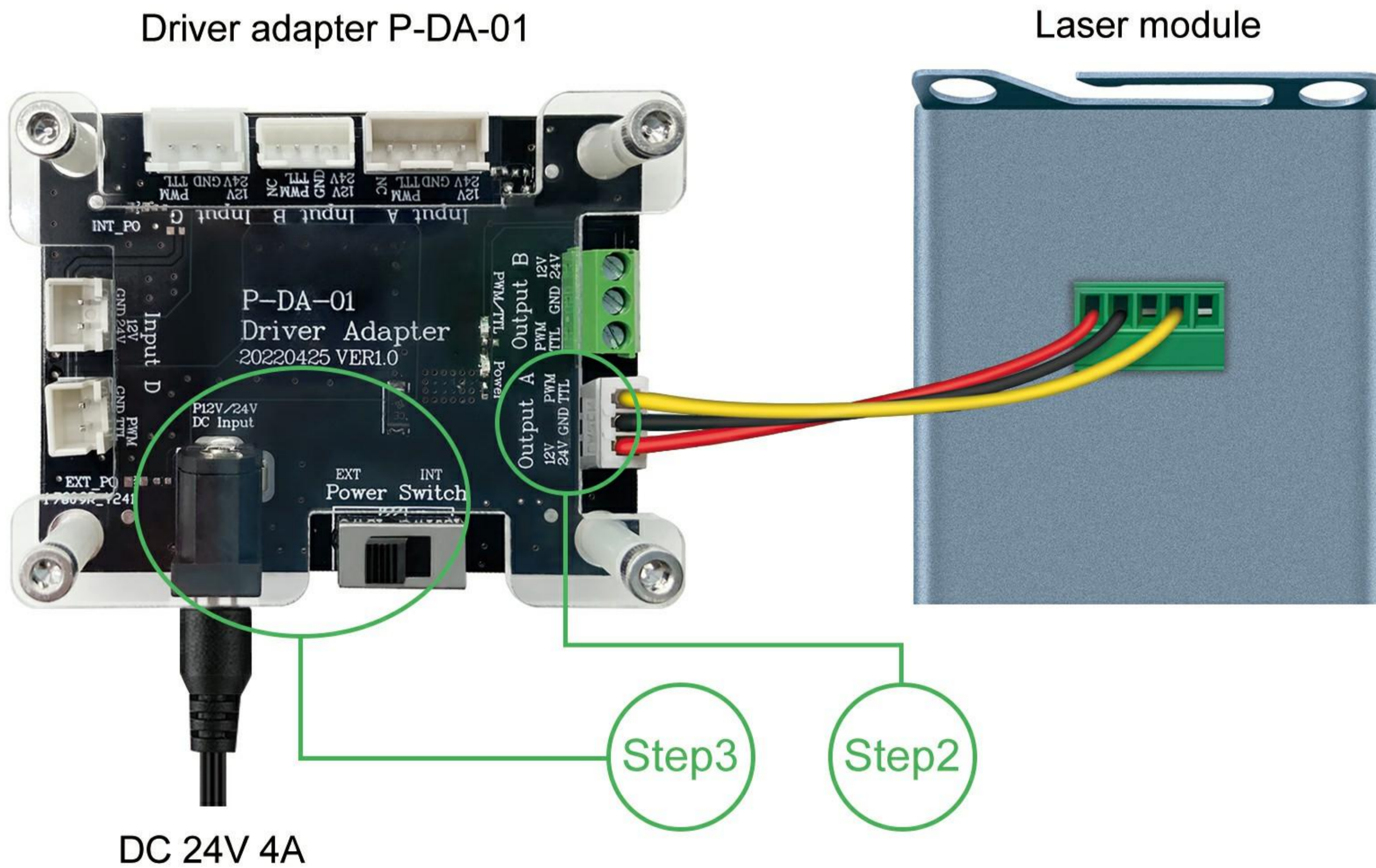
Reference picture

● Only voltage is not matched.

The voltage parameter of your machine are not matched to the module.

| Laser Module | Machine | Solutions |
|--------------|---------|-----------------------------------|
| 24V | 12V | Driver Adapter + 24V Power Supply |
| | 24V | Plug and Play |

- Step1** Connect the cable of your engraving machine to the corresponding input connector on P-DA-01.
- Step2** Connect the cable of the laser module to the Output A connector on P-DA-01.
- Step3** Connect the 24V power adapter to the DC Input connector on P-DA-01. Push the switch to EXT position and the power is provided by external power adapter.

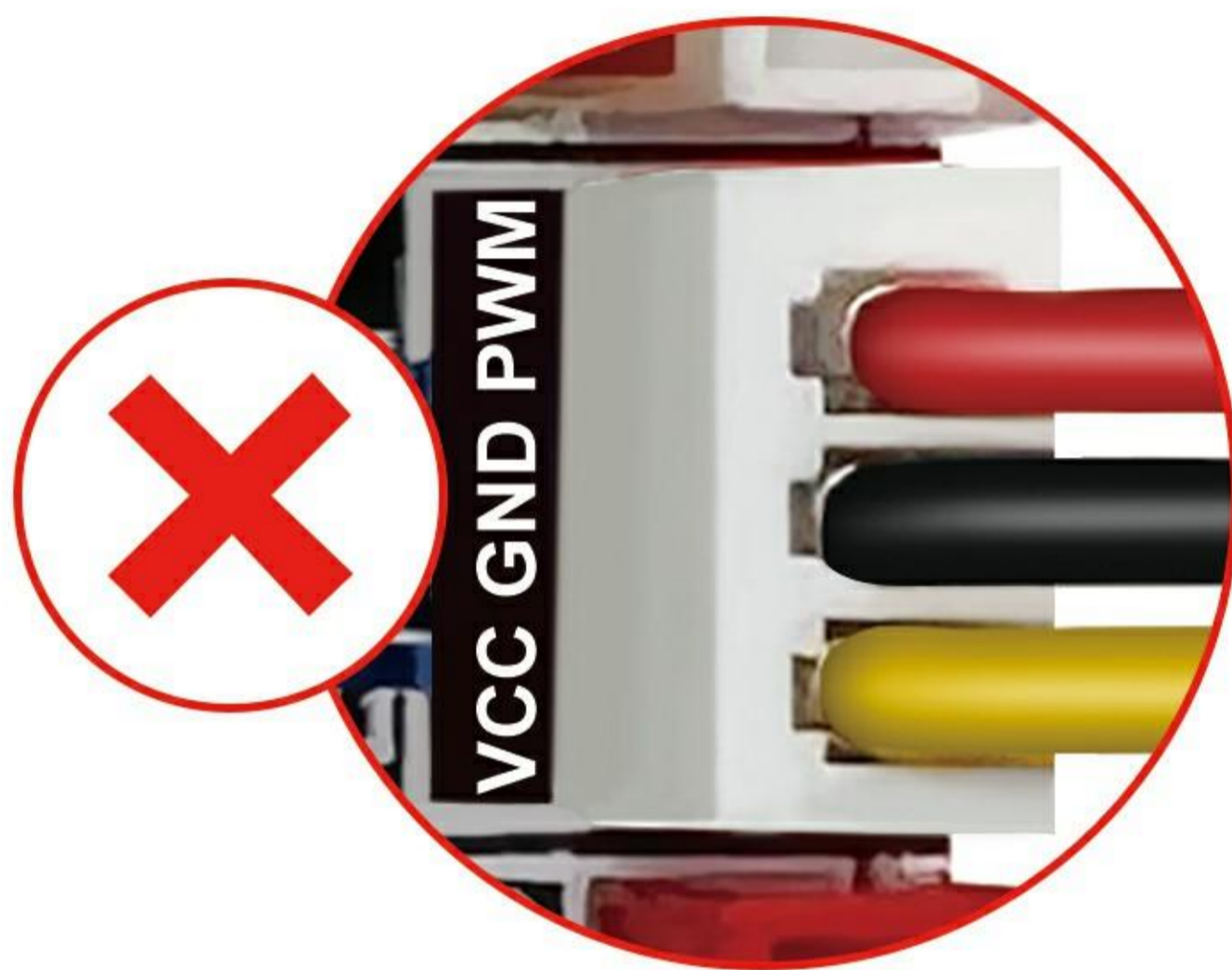


Reference picture

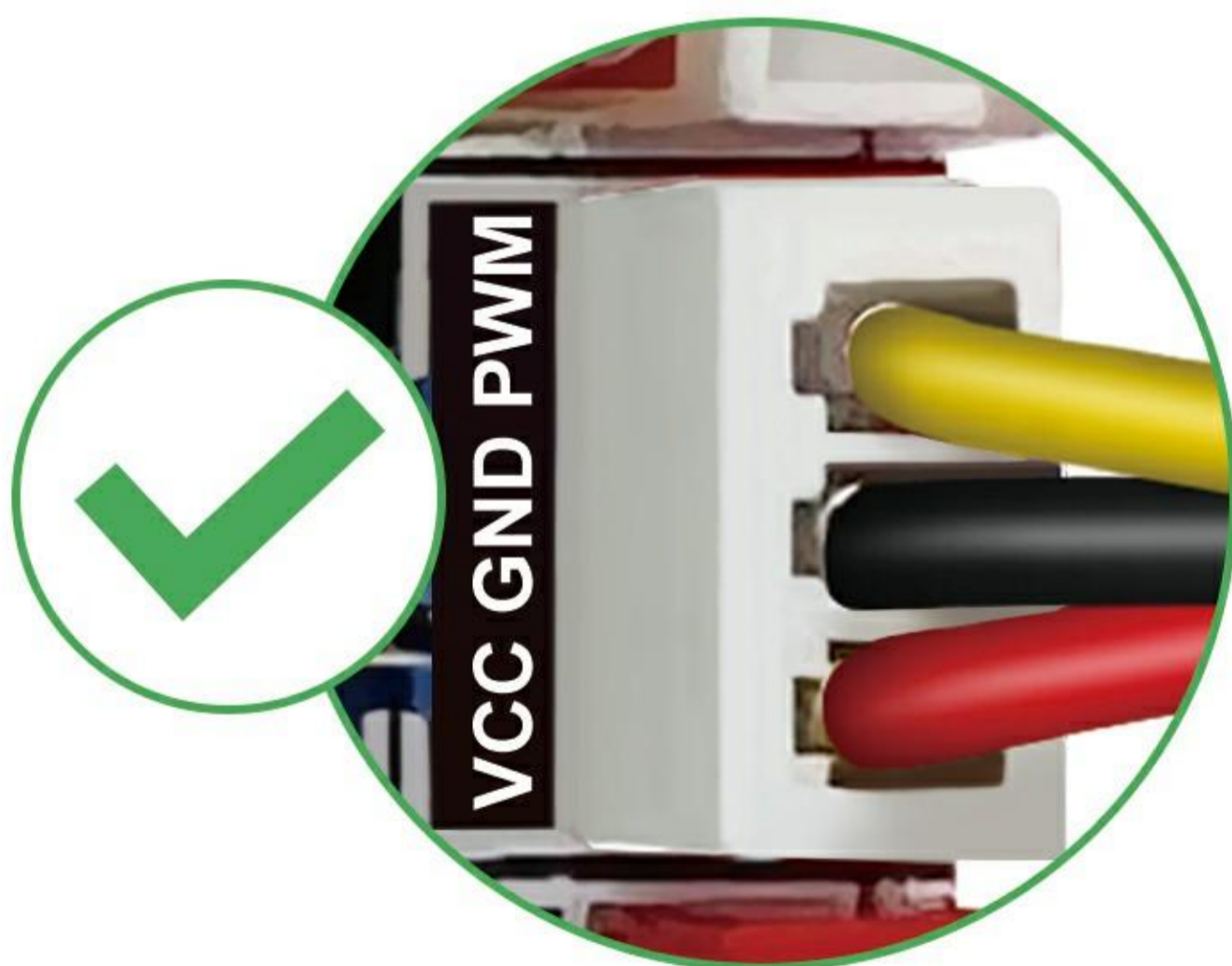
- Only control board pin definition is not matched.

Situation 1: The definition of connector on the engraving machine main board is not pin-to-pin.

Please rearrange the wire sequence of the cable to make each wire is well matched with the pin definition on the engraving machine main board.



Red wire and yellow wire connection error



Red wire and yellow wire connection correctly

Situation 2: Please use P-DA-01 if the main board of your engraving machine is not 3pin, such as 2pin.

| Laser Module | Machine | Solutions |
|--------------|------------|----------------|
| 3PIN | 2PIN | Driver Adapter |
| | Other pins | Driver Adapter |

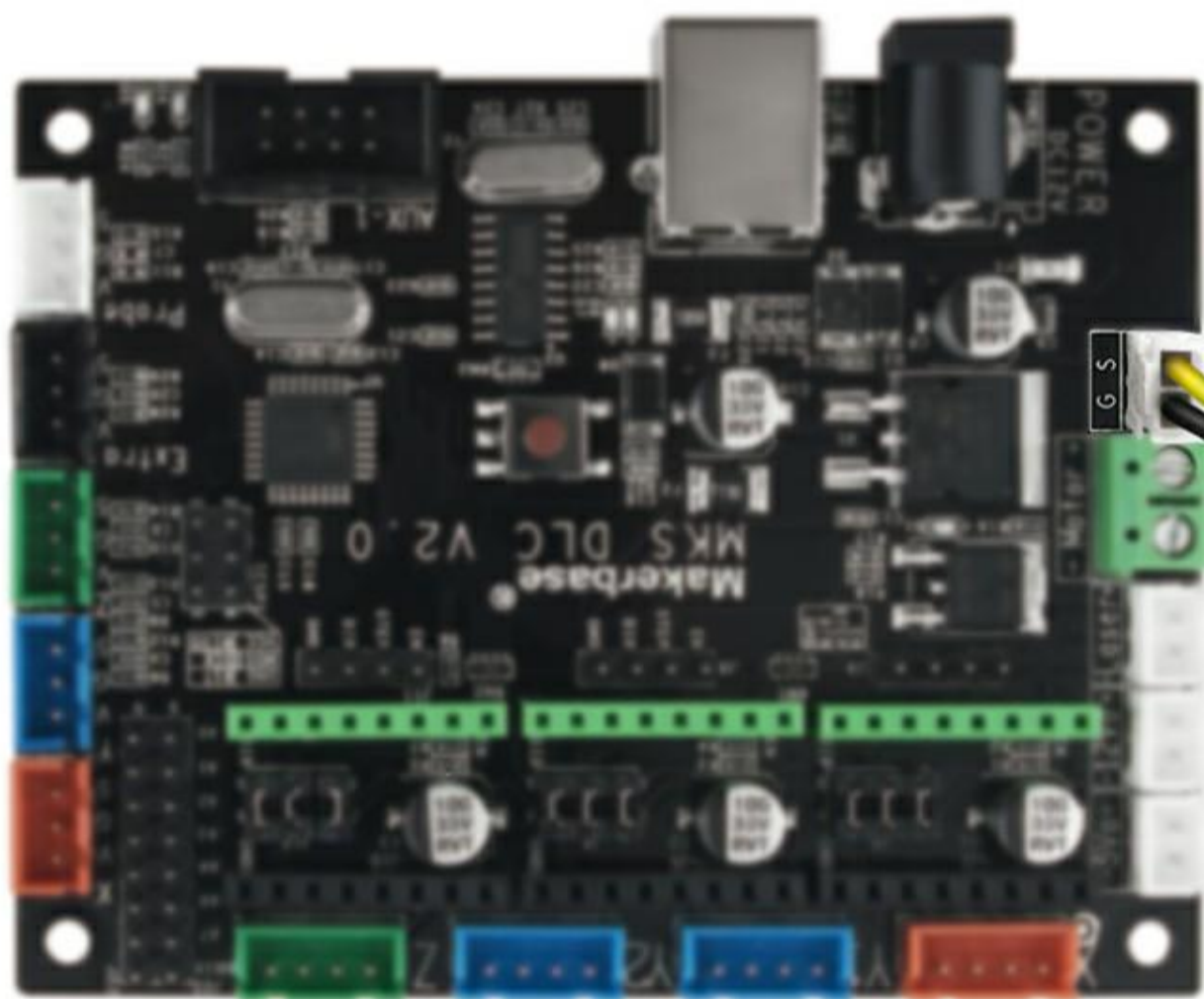
Step1

Connect the cable of the your engraving machine to the corresponding input connector on P-DA-01.

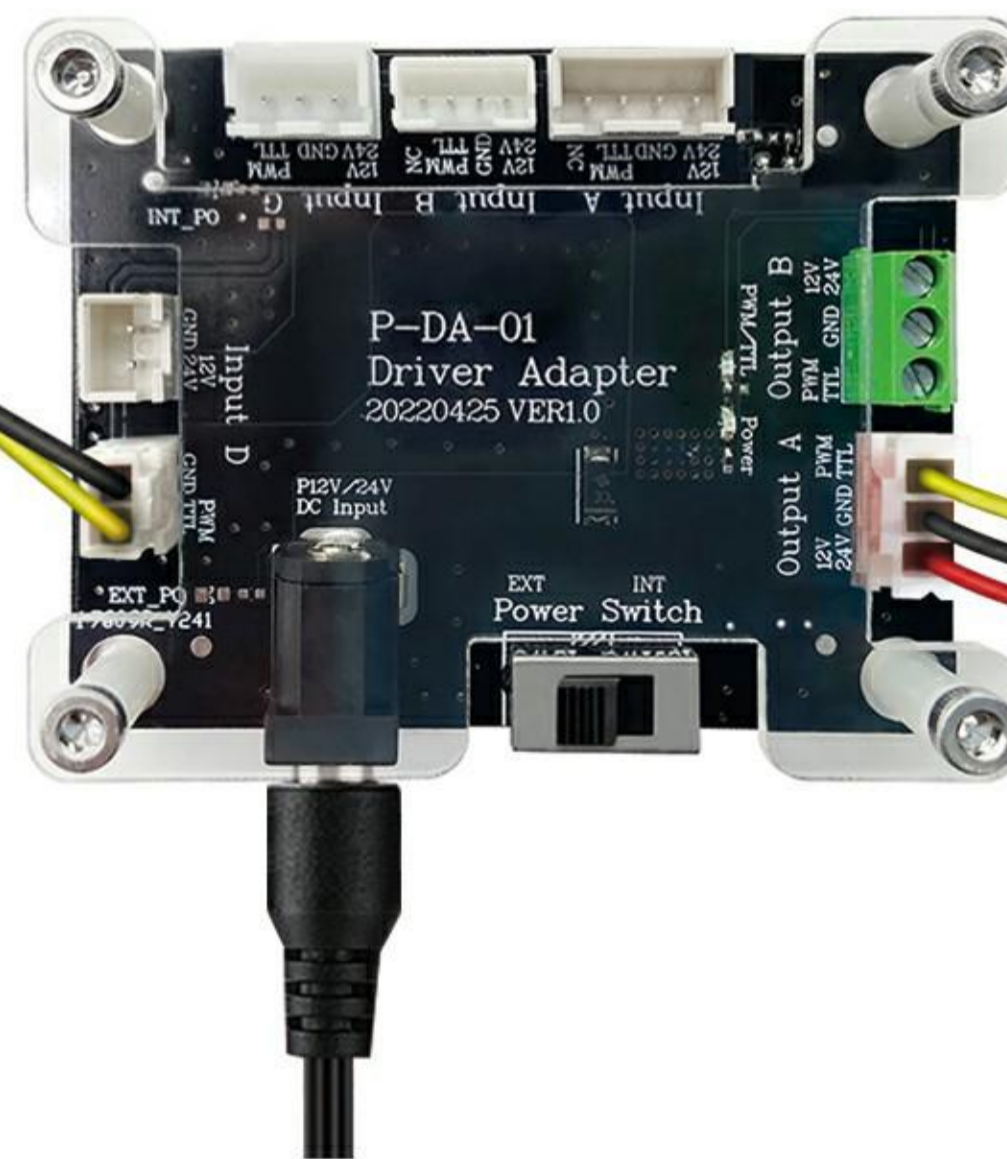
Step2

Connect the cable of the laser module to the Output A connector on P-DA-01.

Engraving machine main board

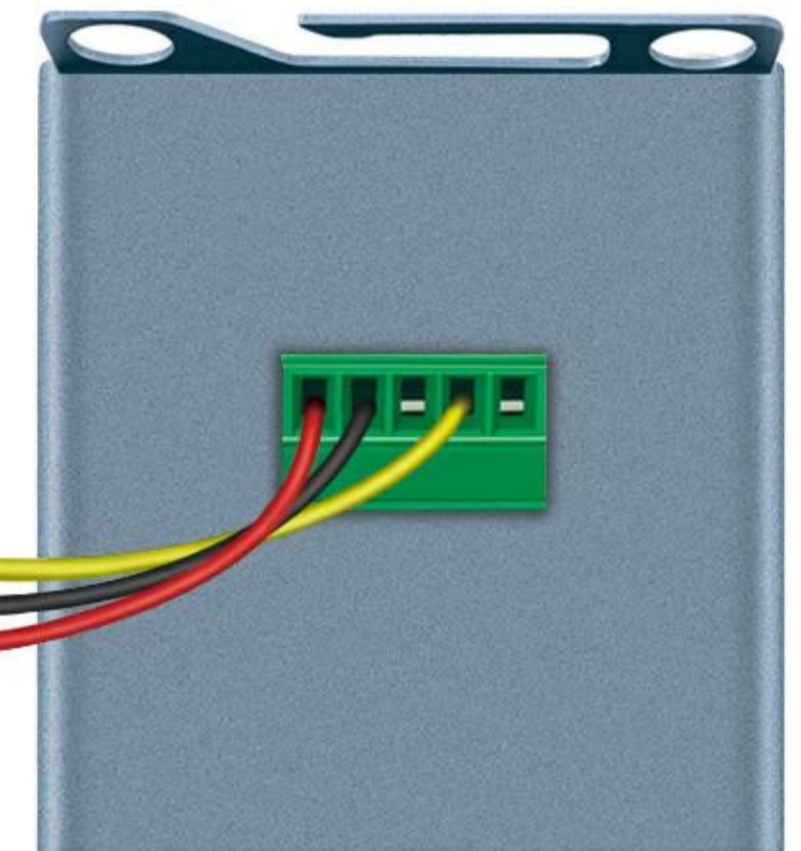


Driver adapter P-DA-01



DC24V 4A

Laser module



Reference picture

4. FOCUS REFERENCE SETTINGS

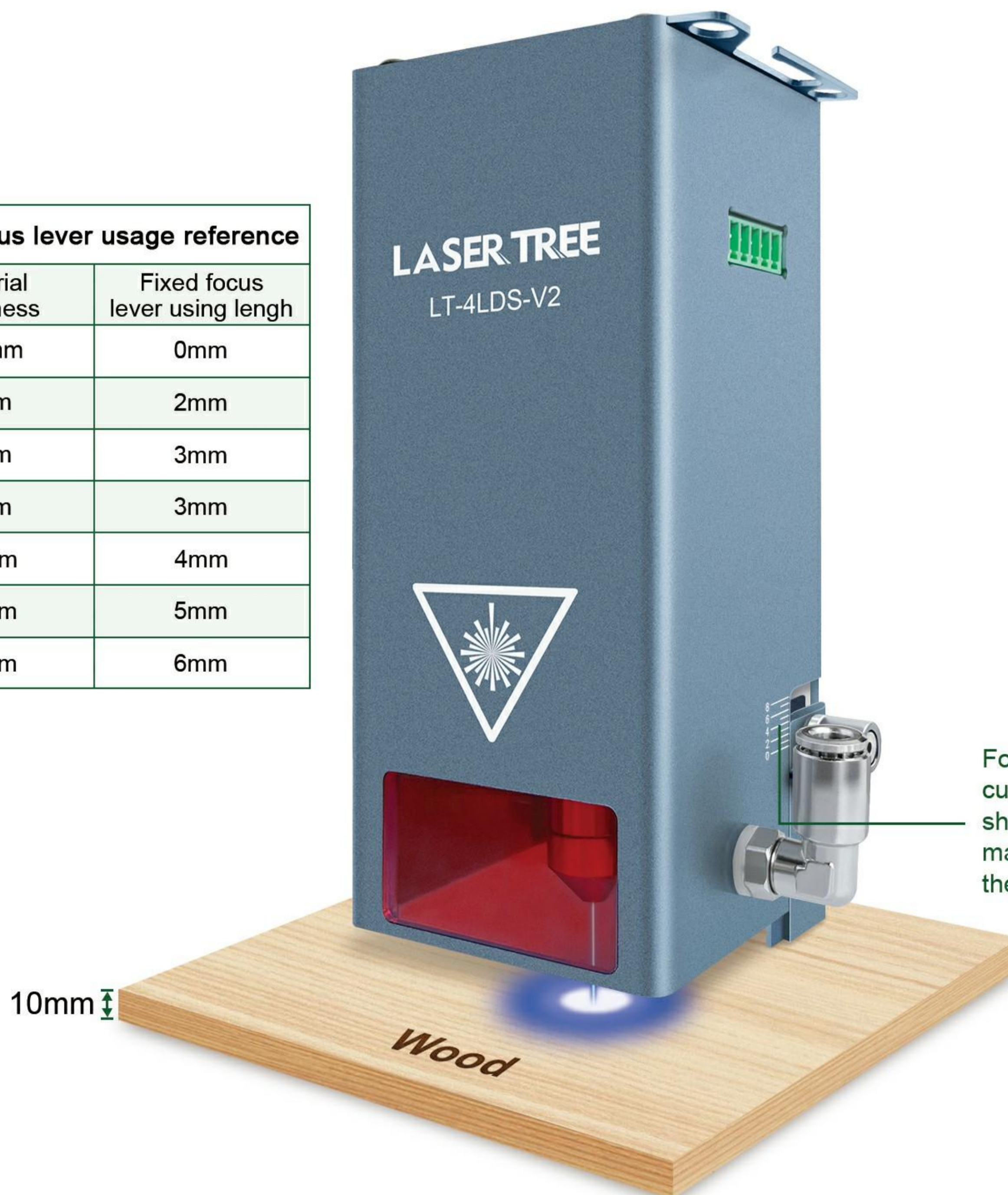
The focal length of the LT-4LDS-V2 laser module is 40mm.

 For cutting

Please make the focus locate lower than the cutting material surface according to the following.

Reference settings for cutting

| Fixed focus lever usage reference | |
|-----------------------------------|--------------------------------|
| Material Thickness | Fixed focus lever using length |
| < 5mm | 0mm |
| 5mm | 2mm |
| 6mm | 3mm |
| 8mm | 3mm |
| 10mm | 4mm |
| 12mm | 5mm |
| 15mm | 6mm |



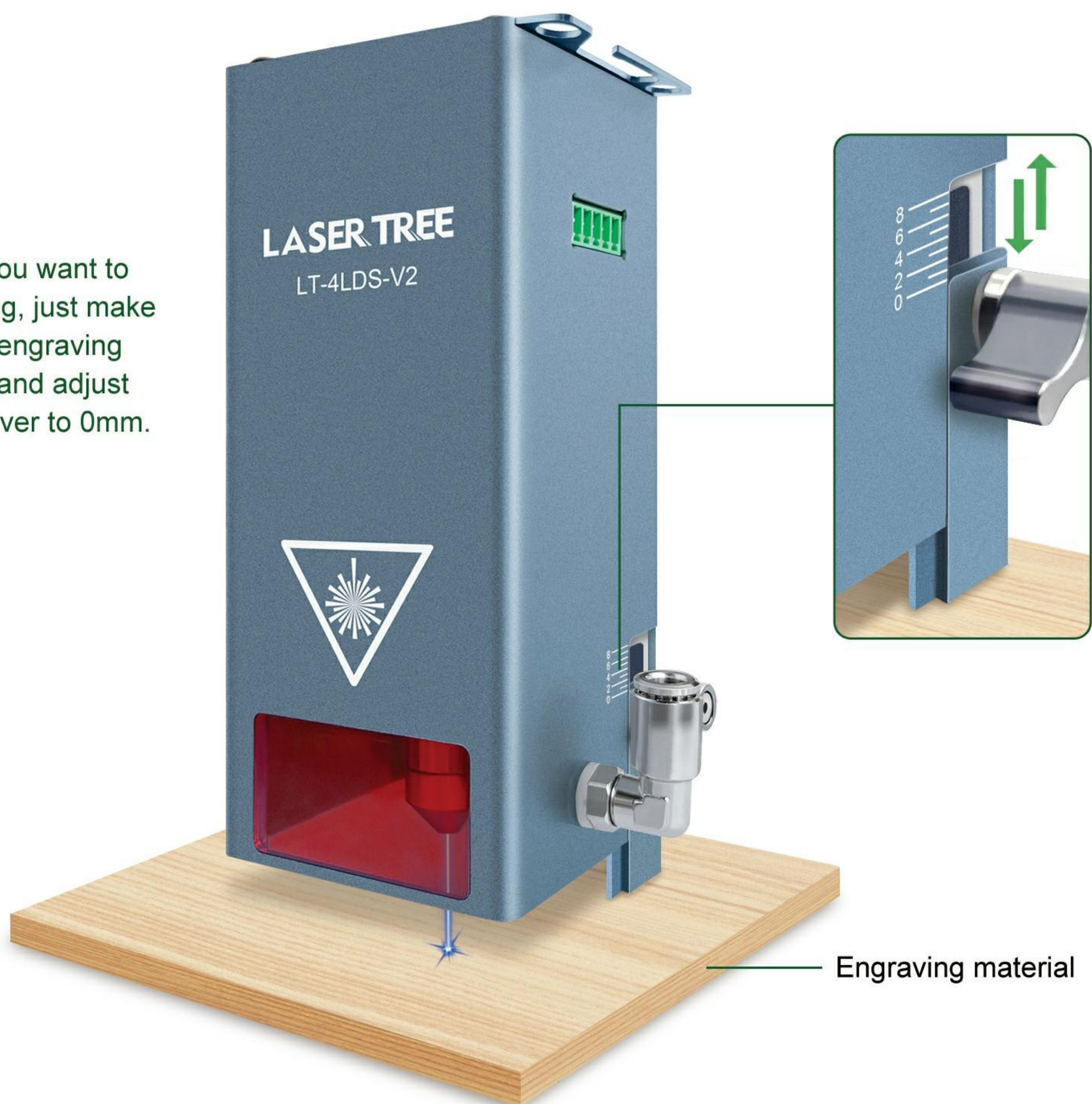
For example, if you want to cut 10mm material, the focus should be 4mm lower than material surface. Please adjust the fixed focus lever to 4mm.

 For engraving

Please make the focus locate on the engraving material surface.

Reference settings for engraving

For example, if you want to perform engraving, just make the focus on the engraving material surface and adjust the fixed focus lever to 0mm.



5. PRECAUTIONS



Laser may cause damage to your skin. Please do not expose your skin directly to the laser.



Please wear laser goggles to protect your eyes when you use this laser module.



Please ensure that the air pump is turned on before you start cutting. If not, the smoke will contaminate the lens.



This laser module doesn't support hot plug, hot plug may cause damage to the laser module.

6. MAINTENANCE



When the laser module is not used for a long time, please ensure that the lens is not polluted by dust.



When you replace the air nozzle, please ensure that your operation will not pollute the lens. Finger prints or dust on the lens will weaken the output power of the laser module, or even damage the lens.



When you find the cutting ability decreases, the lens might be not clean. Please use a clean alcohol swab to clean it according to the following figure.

* For more information about maintenance, please contact us at lasertree@micost-optotech.com.





Enjoy pleasure of DIY