



LT-80W-AA USER MANUAL

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1. LASER MODULE INTRODUCTION

1.1 Parameters

Optical power:	10W (± 1 W)
Input:	DC 12V or 24V
Wavelength:	450nm (± 10 nm)
Focus length:	45mm
PWM modulation:	0/5-12V, 0-5kHz
Fan speed:	10000rpm
Operating temperature:	0-60°C
Interface:	XH2.54-3P Socket
Cable:	3PIN, 80cm
Module size:	40*40*147mm
Module weight:	250g
Application:	Engraving or cutting

1.2 Product application

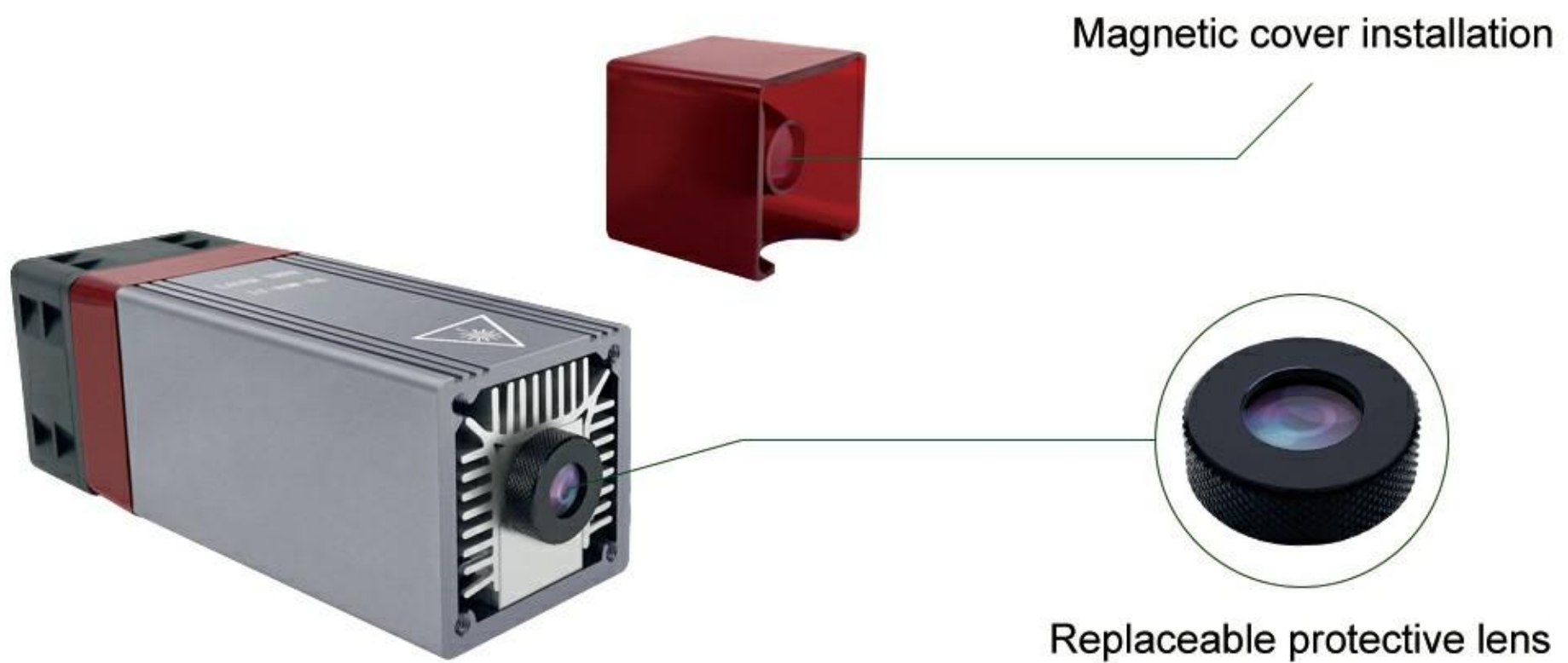
With the air nozzle

Air pump suggestion:

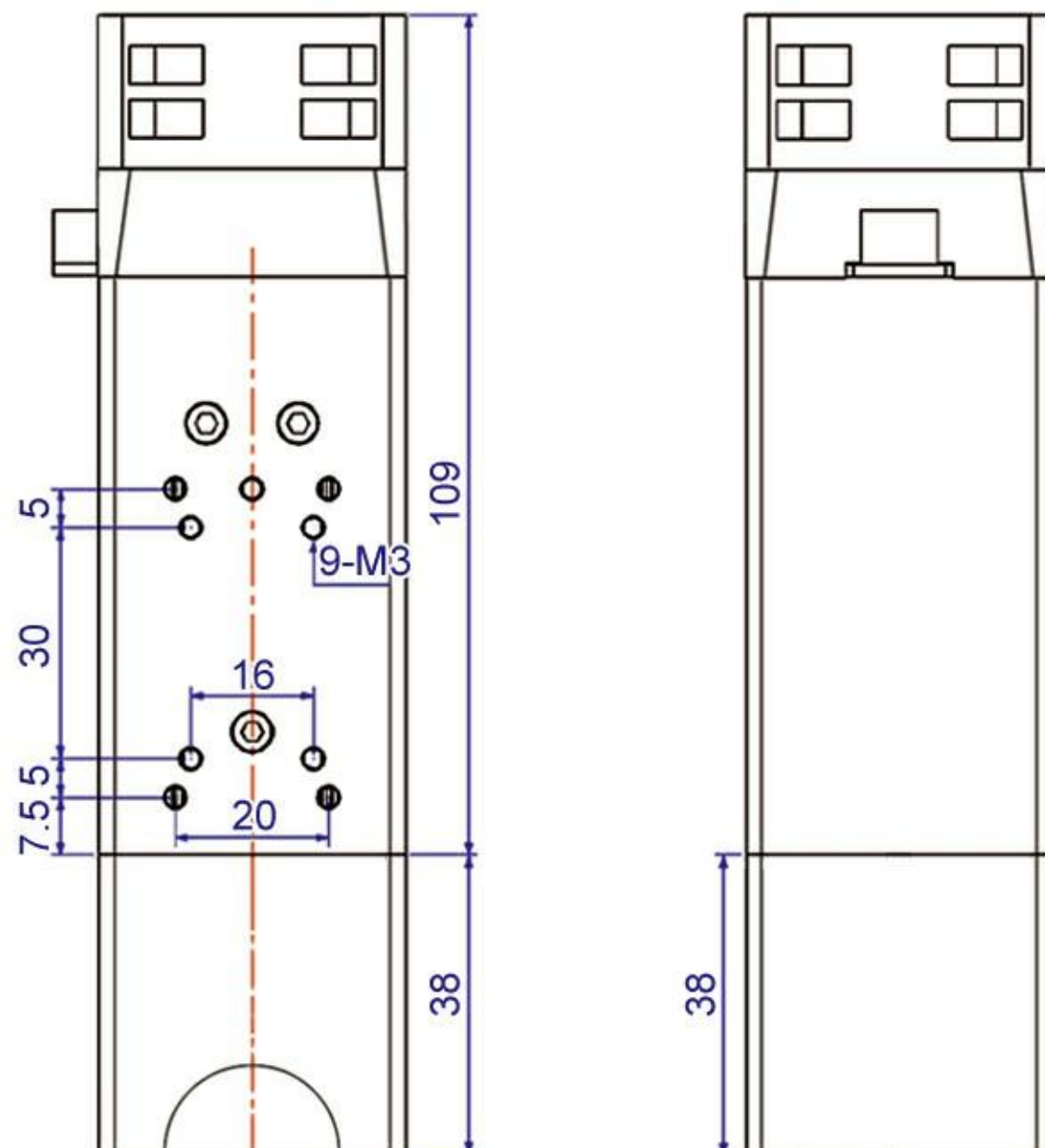
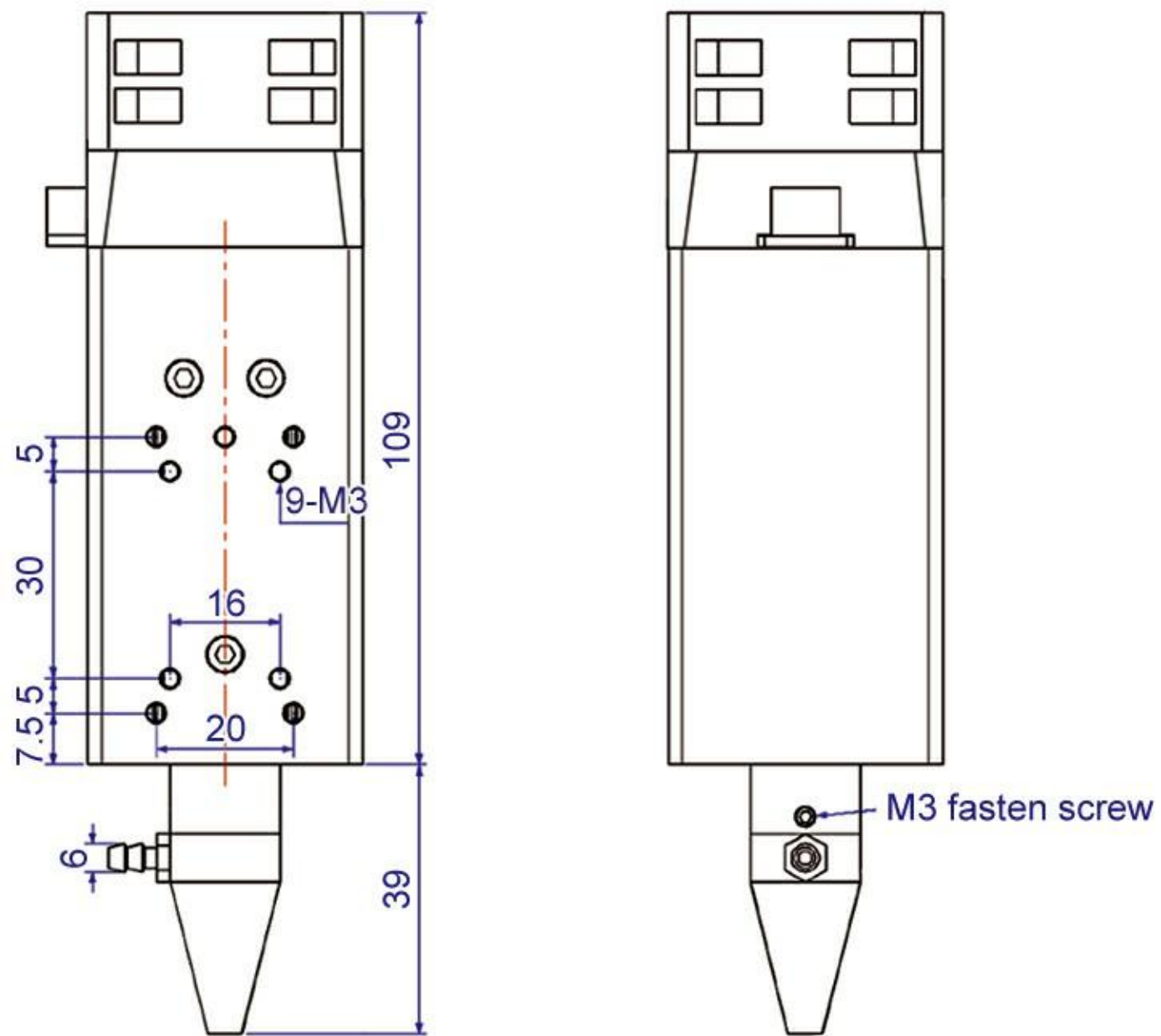
- Air pipe inner diameter: $\Phi \geq 4\text{mm}$
- Air pressure and capacity: $\geq 27\text{kPa}$, 27L/min



With the laser protective cover



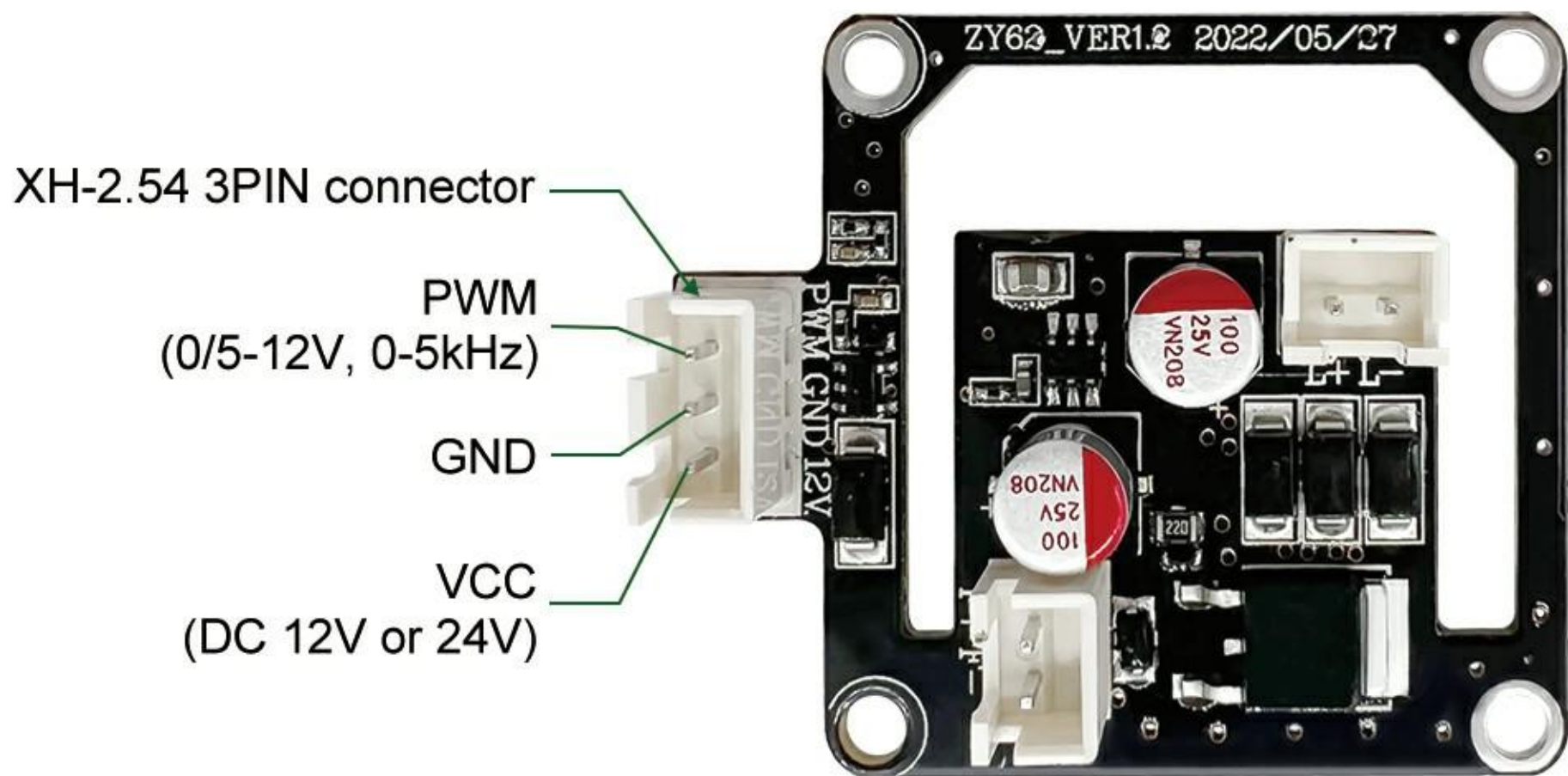
1.3 Outline dimension (Unit: mm)



2. LASER MODULE CONNECTION DESCRIPTION

2.1 PIN Definition

 Laser module driver board



 Cable



 Yellow: PWM

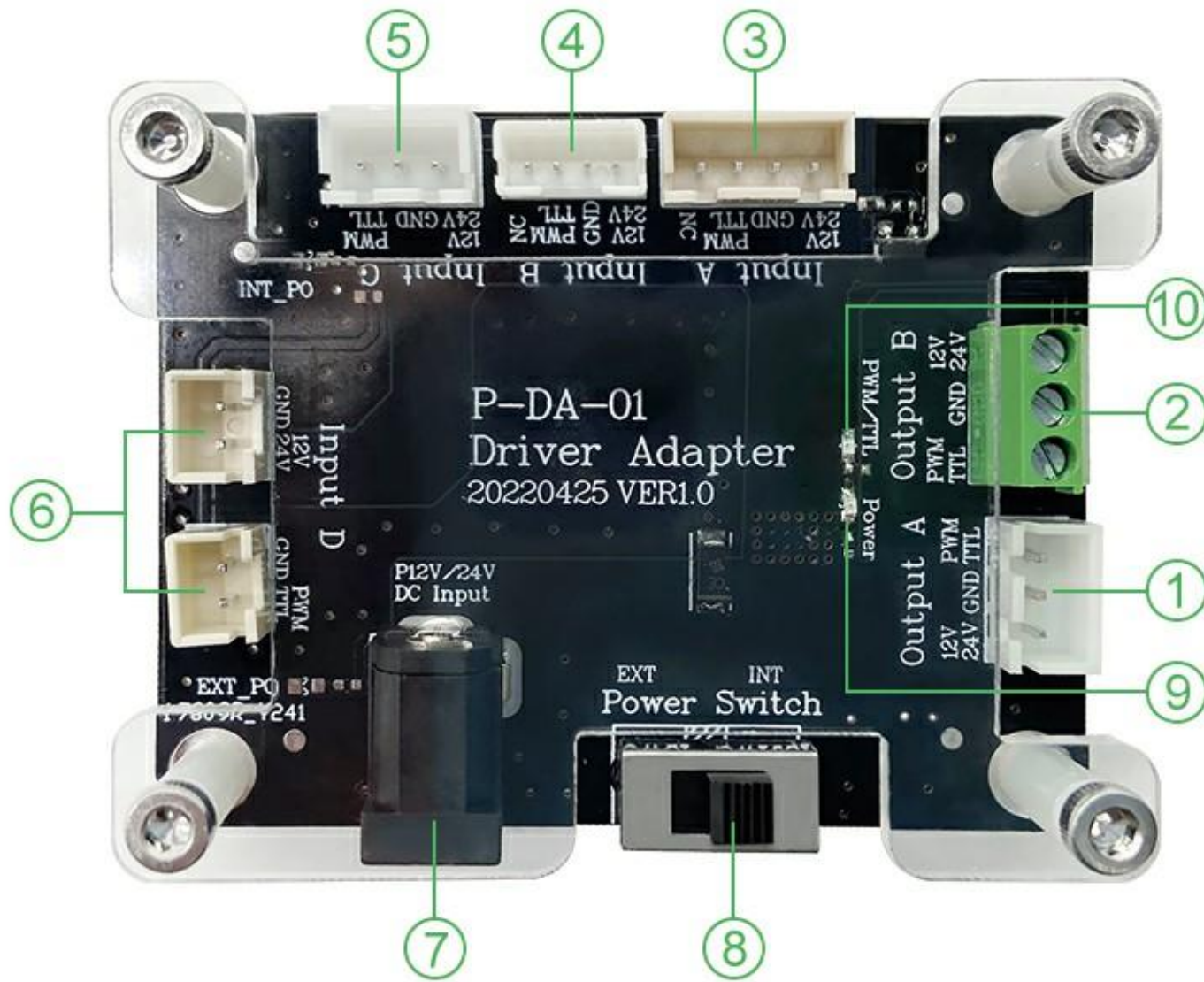
 Black: GND

 Red: Power (+12V/24V)

2.2 Driver adapter

Note: This driver adapter DOES NOT come with the laser module. For more details, please refer to **section 2.3 connection**.

Model: P-DA-01



- 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.

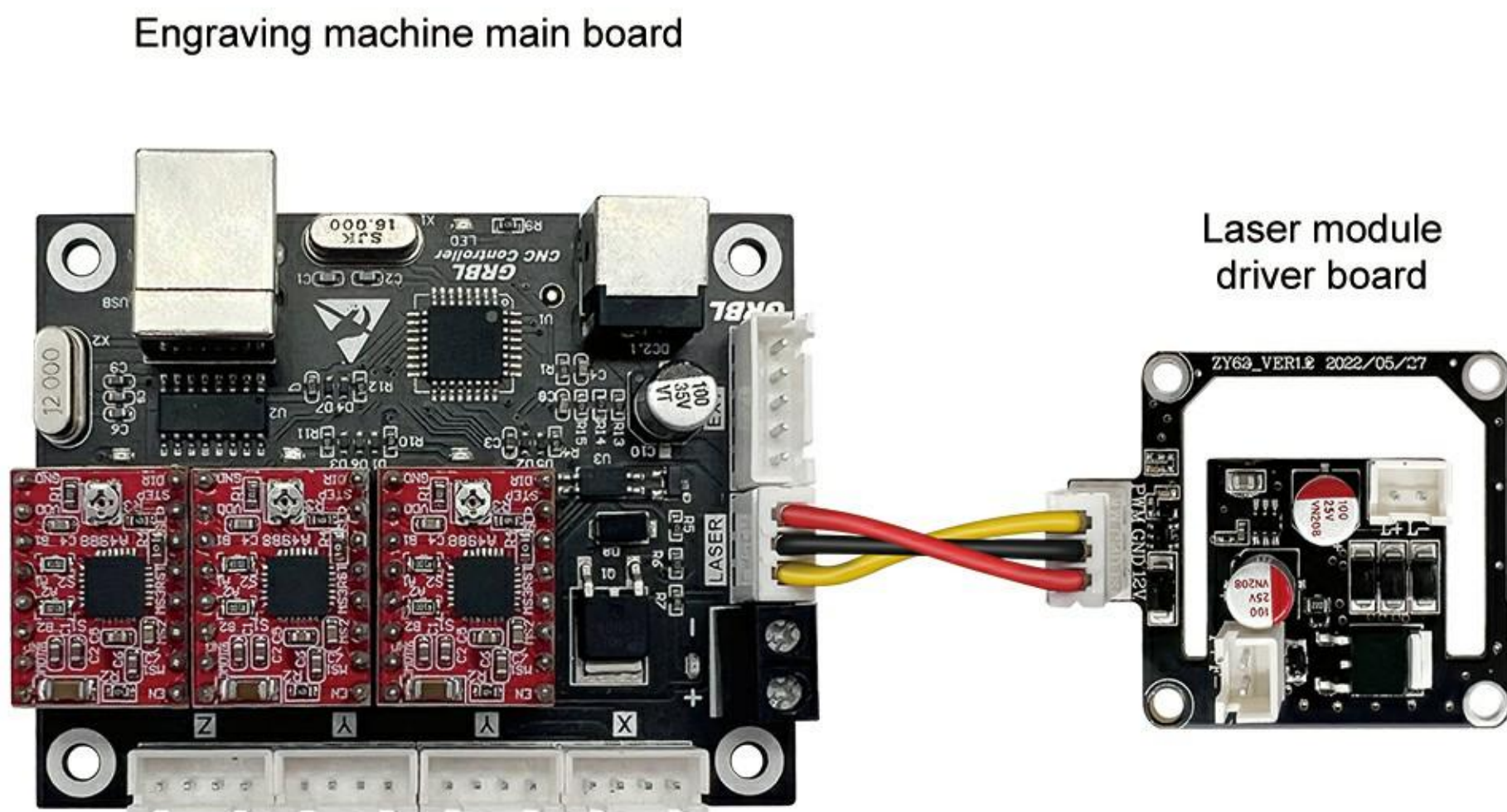
2.3 Connection

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

- A. Check the voltage parameter of your engraving machine.
- B. Check the pin definition of the main board on your engraving machine.

■ “A”&“B”are both compatible.

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

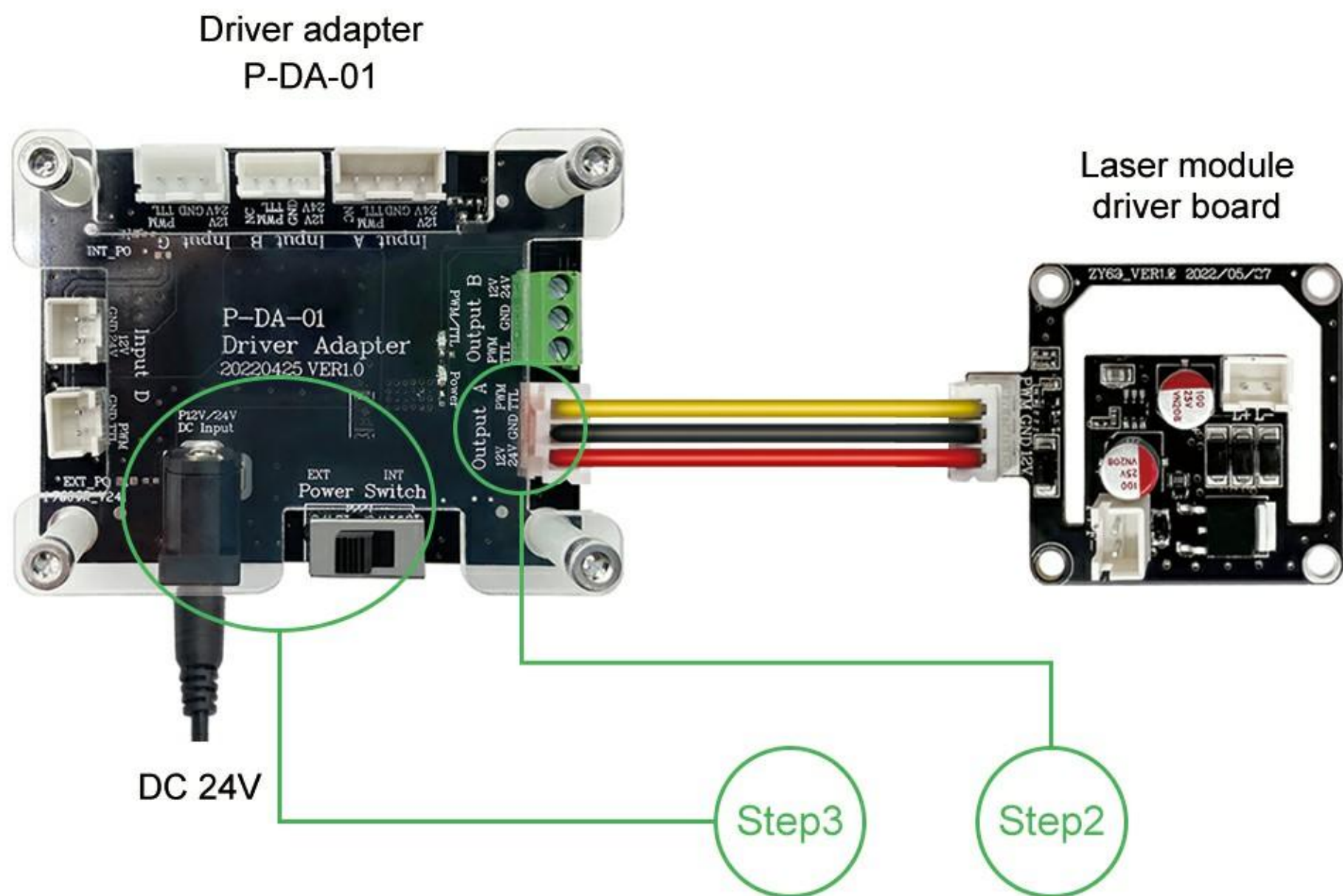


■ Only voltage is not matched.

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

Machine	Laser Module	Solutions
12V	24V	Driver Adapter + 24V Power Supply
24V	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

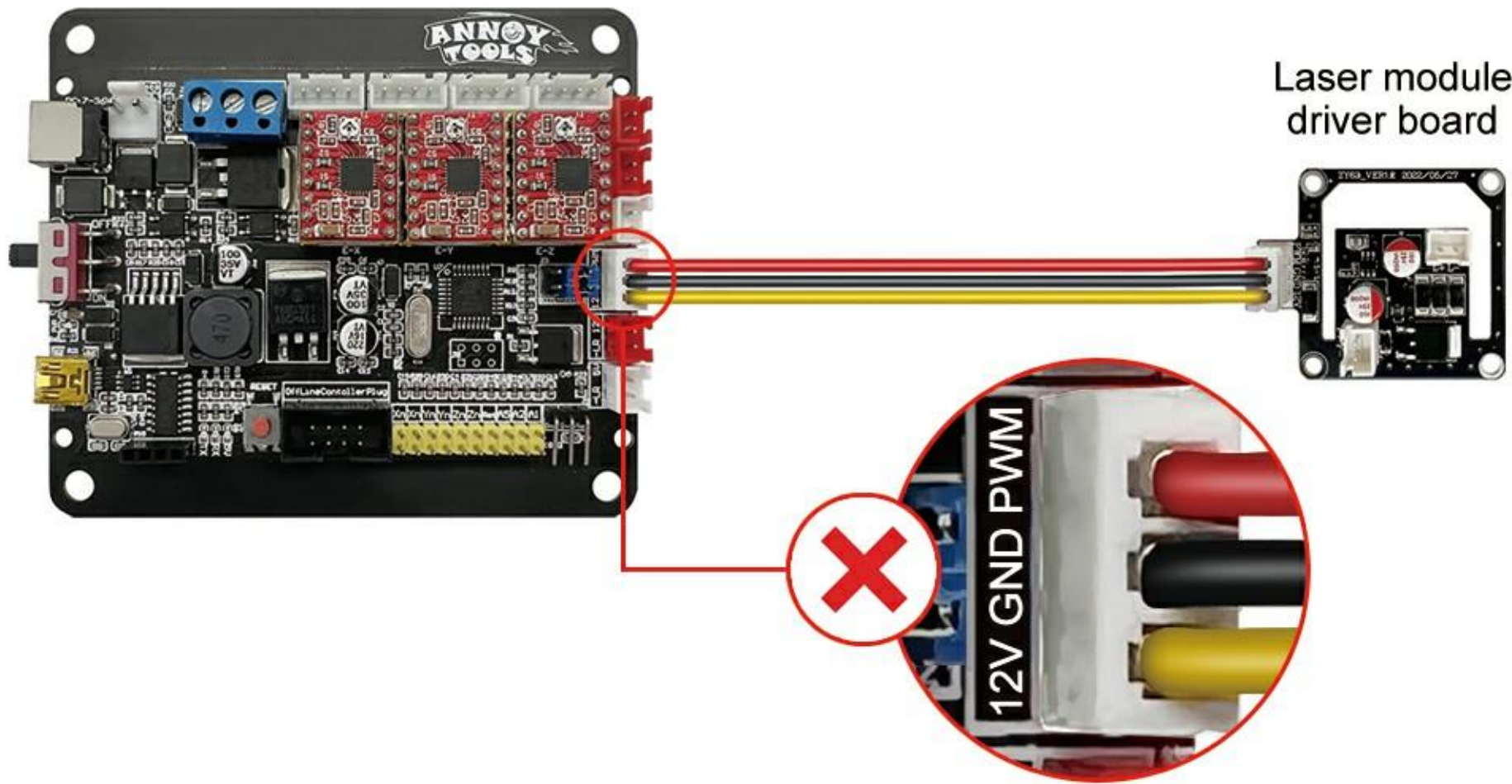
- Only control board pin definition is not matched.

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

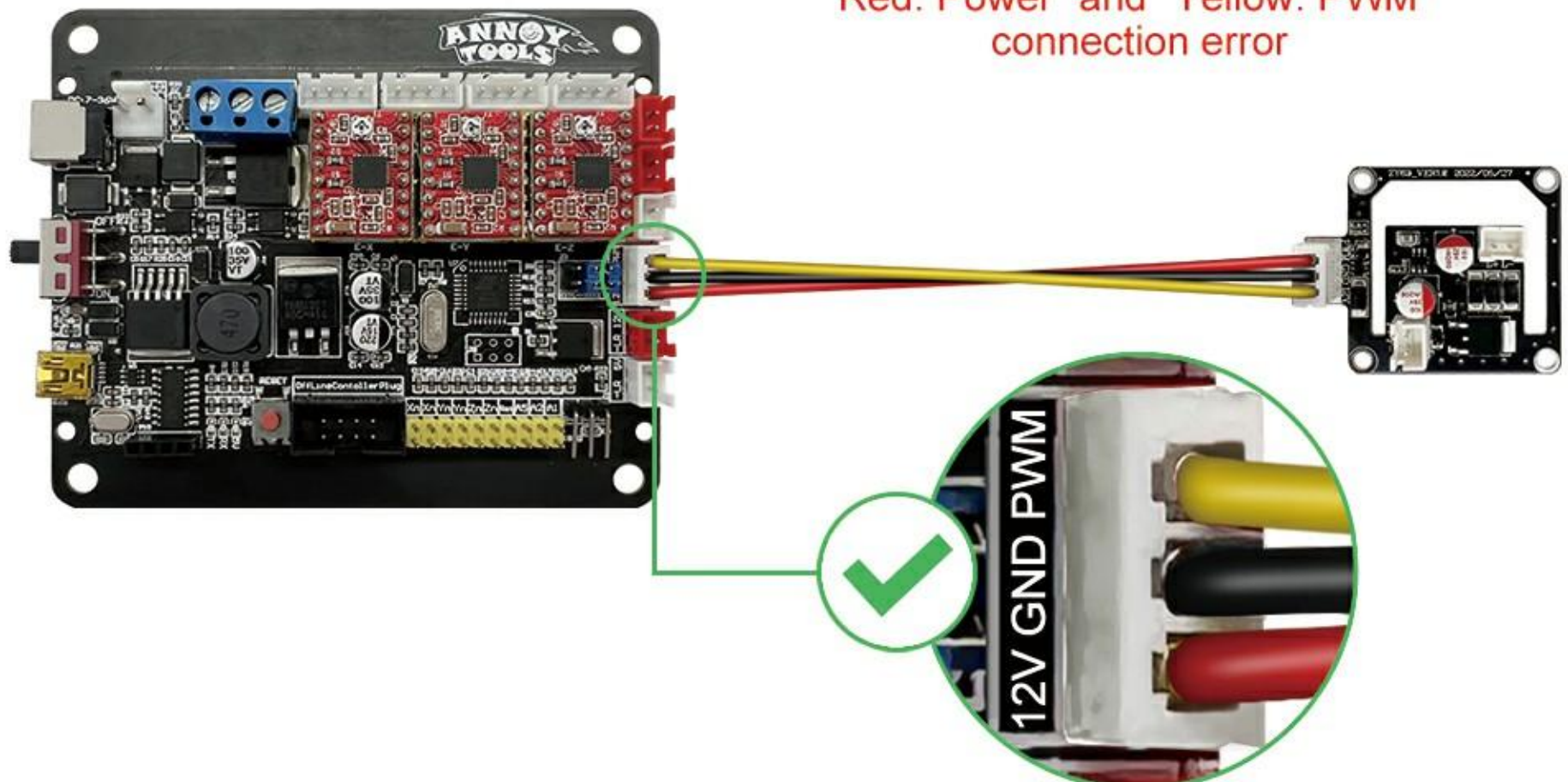
Please rearrange the wire sequence of the cable to make each wire is well matched with the pin definition on the main board.

Engraving machine main board

Laser module driver board



"Red: Power" and "Yellow: PWM" connection error



"Red: Power" and "Yellow: PWM" connection correctly

Reference picture

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.

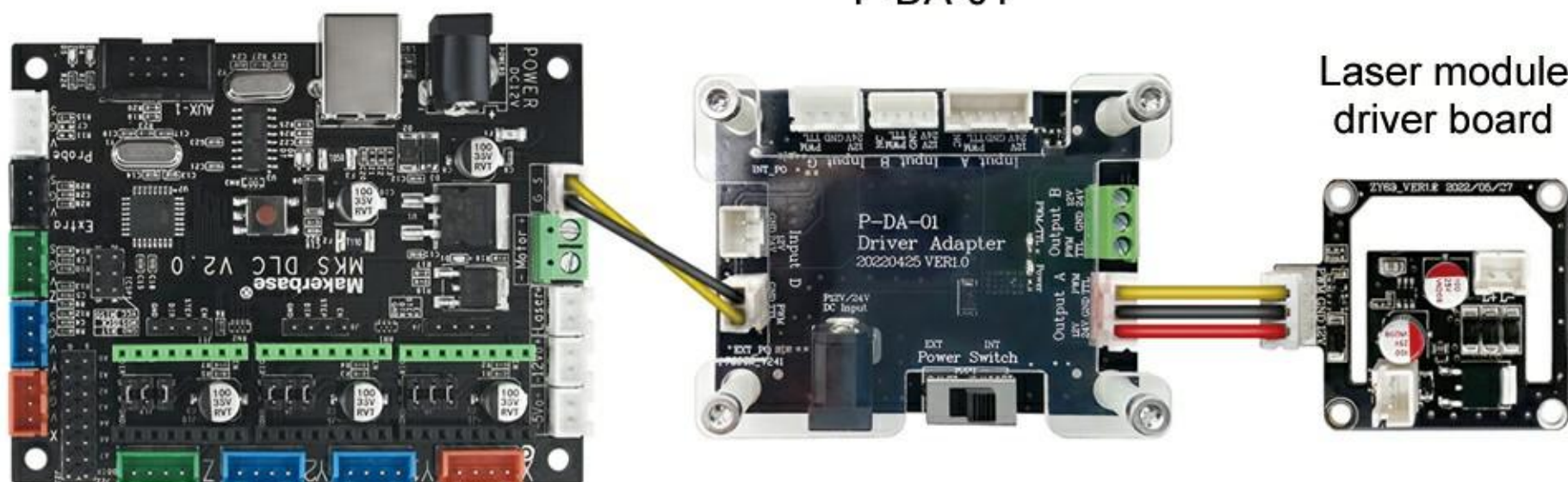
Step2

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

Laser module
driver board




Reference picture

3. LASER MODULE REFERENCE SETTINGS

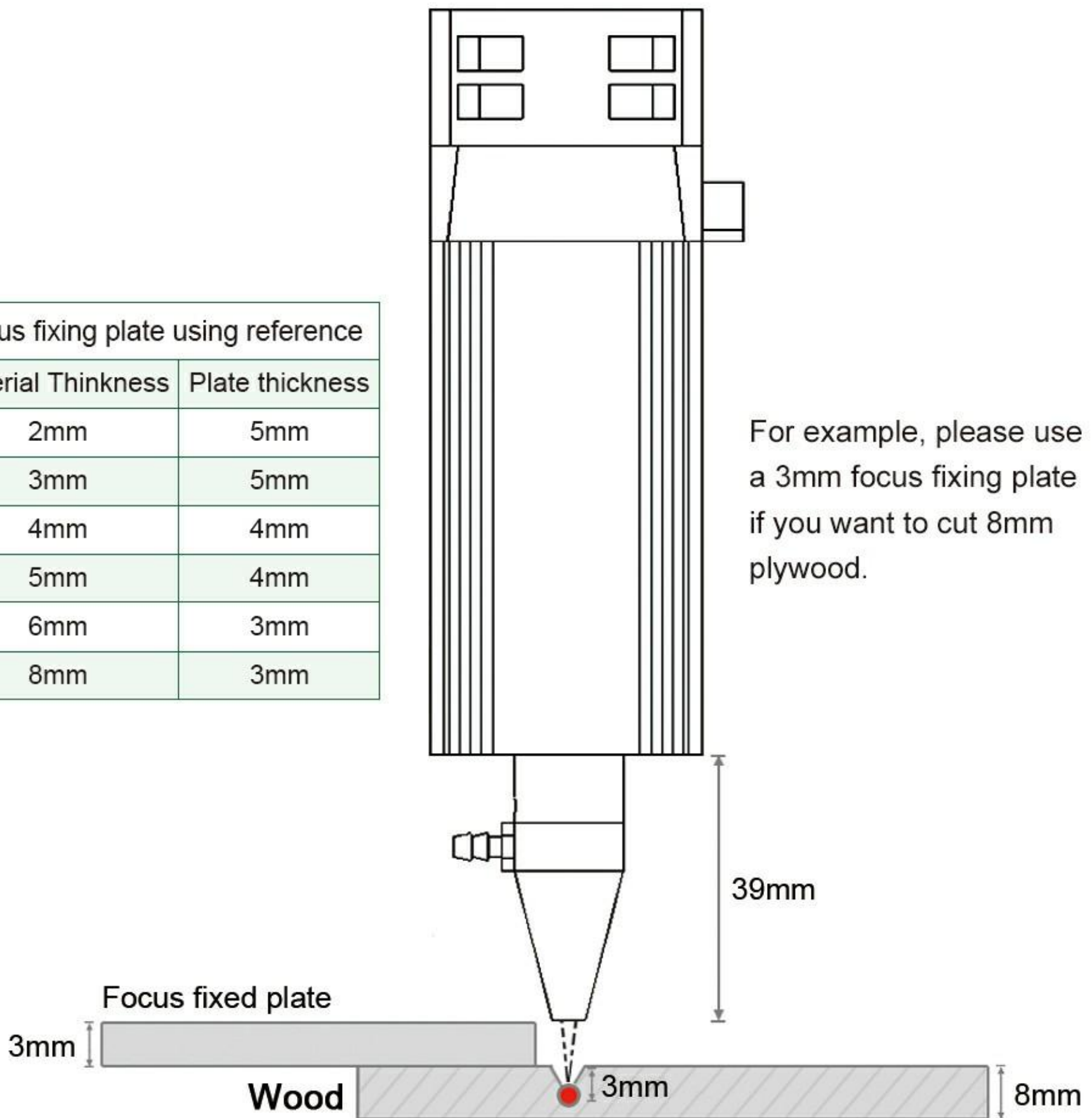
3.1 For cutting

The focal length of the LT-80W-AA laser module is 45mm.

 When cutting, you only need to make the focus located a bit lower than the surface of materials.

Reference settings for cutting

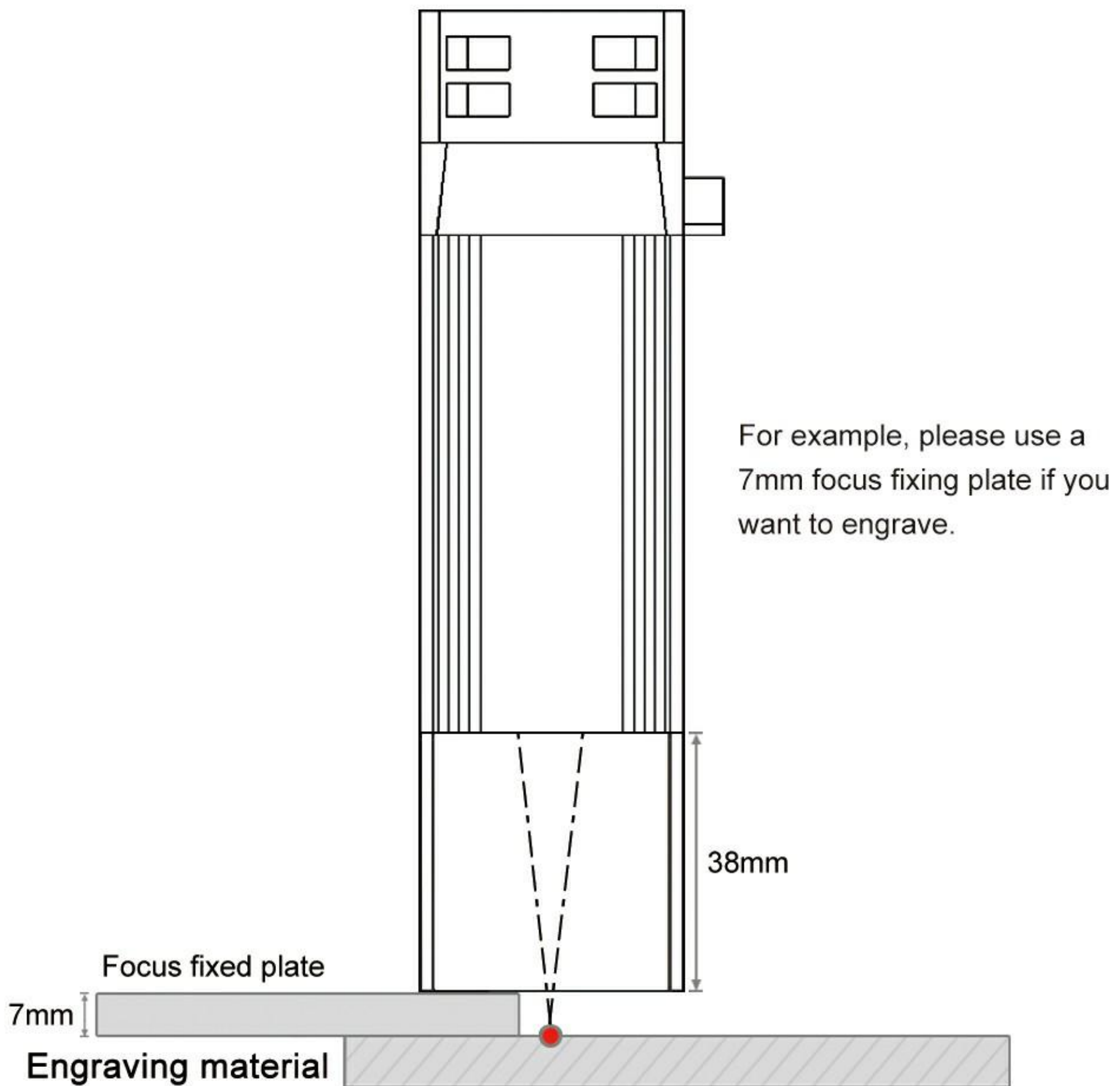
Focus fixing plate using reference	
Material Thinkness	Plate thickness
2mm	5mm
3mm	5mm
4mm	4mm
5mm	4mm
6mm	3mm
8mm	3mm



3.2 For engraving

 When engraving, please ensure that the focus is located on the material surface.

Reference settings for engraving



4. PRECAUTIONS AND MAINTENANCE

4.1 Precautions



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.

4.2 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.





LASER TREE

Enjoy pleasure of DIY