



LASER TREE K30 Engraver Cutter Upgrade User Manual

[Home](#) » [LASER TREE](#) » LASER TREE K30 Engraver Cutter Upgrade User Manual 

Contents

- [1 LASER TREE K30 Engraver Cutter Upgrade](#)
- [2 PRODUCT INTRODUCTION](#)
- [3 Packing list](#)
- [4 PRODUCT DESCRIPTION](#)
- [5 PIN definition](#)
- [6 CONNECTION DESCRIPTION](#)
- [7 FOCUS REFERENCE SETTINGS](#)
- [8 PRECAUTIONS](#)
- [9 MAINTENANCE](#)
- [10 Documents / Resources](#)
 - [10.1 References](#)



LASER TREE K30 Engraver Cutter Upgrade



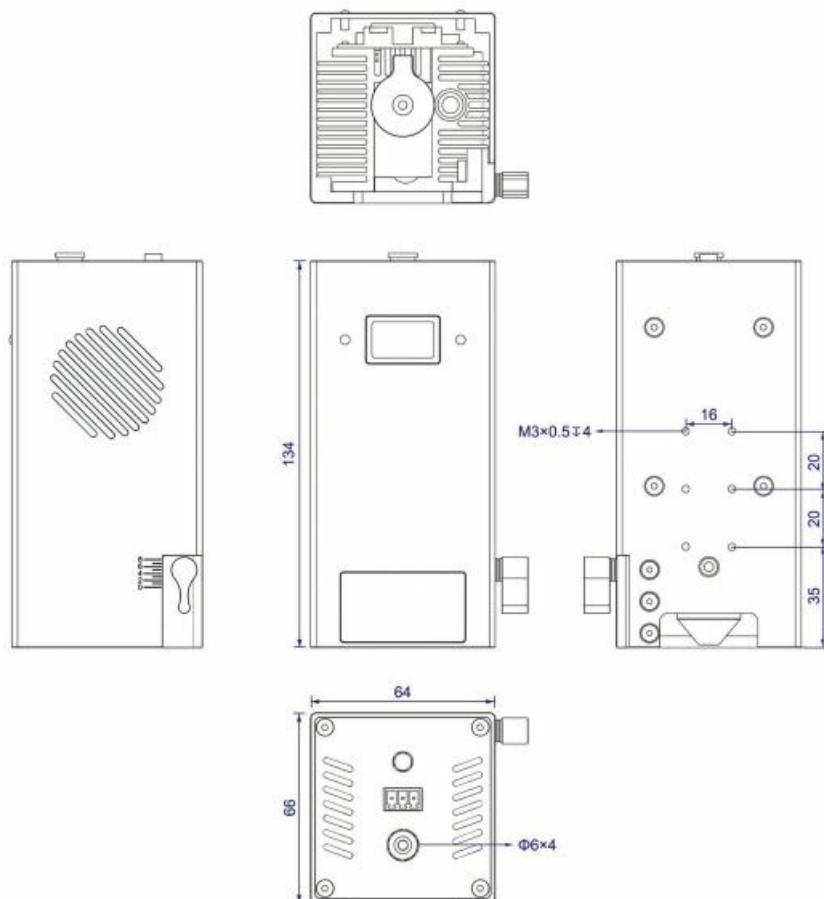
PRODUCT INTRODUCTION

 Parameters

Optical power:	30W+
Input:	24V 5A
Wavelength:	450nm ($\pm 10\text{nm}$)
Focus length:	40mm
Air assistance:	Built-in
Power adjustable:	TTL/PWM
PWM modulation:	0/3-12V, 0-5kHz
Fan speed:	9000rpm
Operating temperature:	0-60°C
Interface:	2EDG-3.81
Cable:	3PIN, 80cm
Material:	Aluminum & Copper
Module weight:	710g
Application:	Engraving & Cutting



Outline dimension (Unit: mm)



Packing list



Laser module



Sliding plate



2mm L-wrench



Driver adapter



24V5A power supply



Spare protective lens



1.5m Air tubex1



80cm Input cable

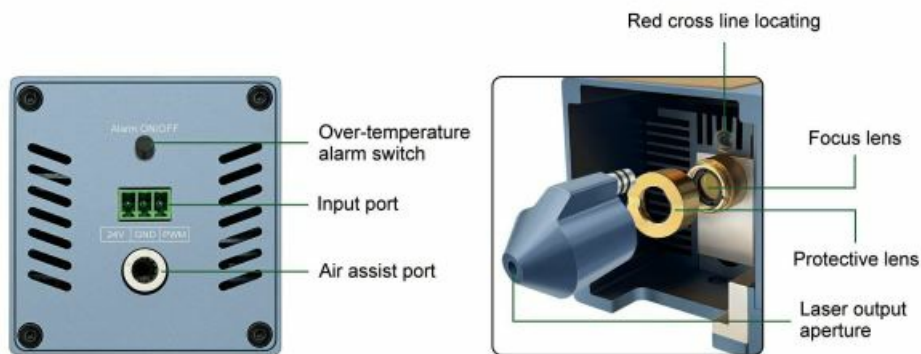


60cm Adapter cable

PRODUCT DESCRIPTION



Overview



Input port

Use 2EDG3.81 pluggable connector.

- VCC (24V5A DC)
- GND
- TTL/PWM in (0-5kHz)



Air assistance port

Built-in air assist to get clean-cut edges and improve cutting performance.

Air pump suggestion:

- Air pressure and capacity: $\geq 0.027\text{kPa}$, 27L/min
- Air tube: outer diameter 6mm and inner diameter $\geq 4\text{mm}$



Working temperature display

The output power stability and life time of laser module has strong relationship with working temperature of laser diode. K30 built-in a thermistor at the highest temperature point near the laser diode, the operating temperature of the diode can be displayed on the digital tube in real-time. We suggest the working temperature of the laser module is controlled below 55° C and the working environmental temperature below 35°C to get good power stability and durability.



Over-temperature alarm switch

When the working temperature of the laser module is higher than 55° C, the buzzer will sound an alarm.



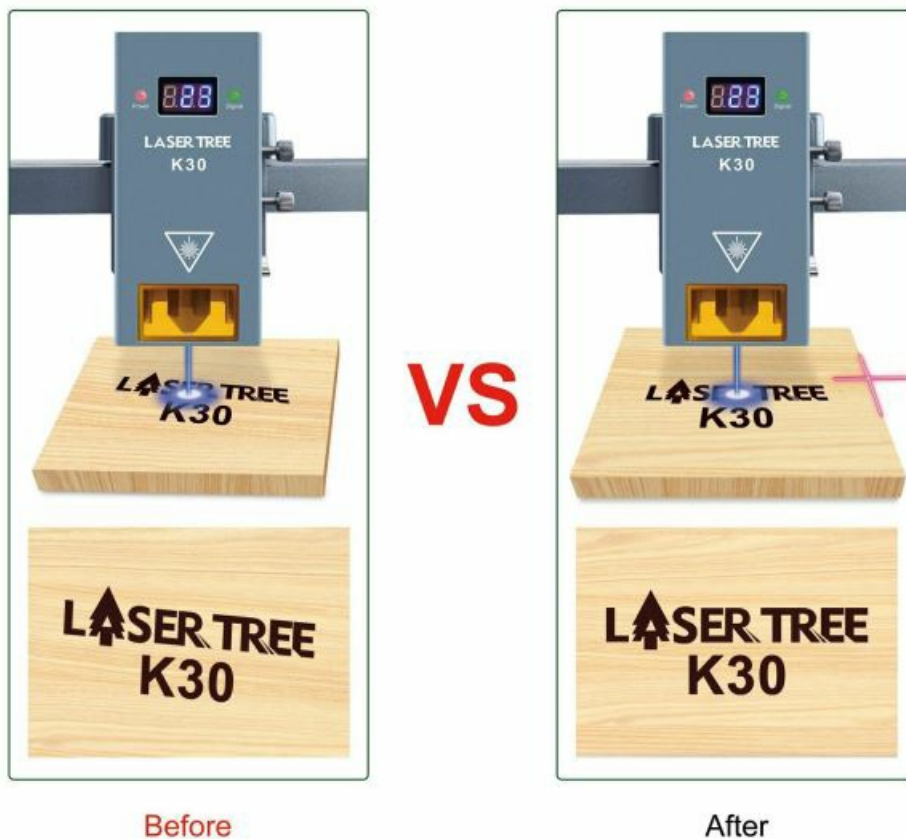
Working status indicator

Power indicator: it is red when power supply is connected. Signal indicator: it is green when signal is received.

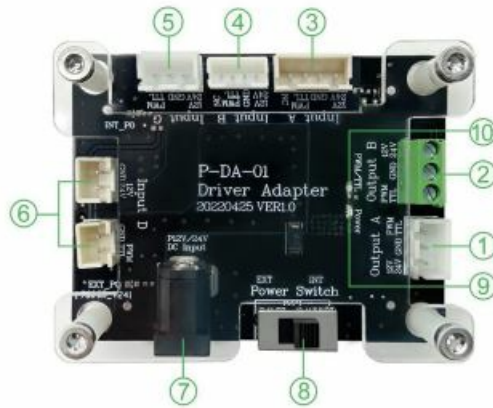


Red cross line locating

Help you to place the material to the position correctly.



Driver adapter (Model: P-DA-01)



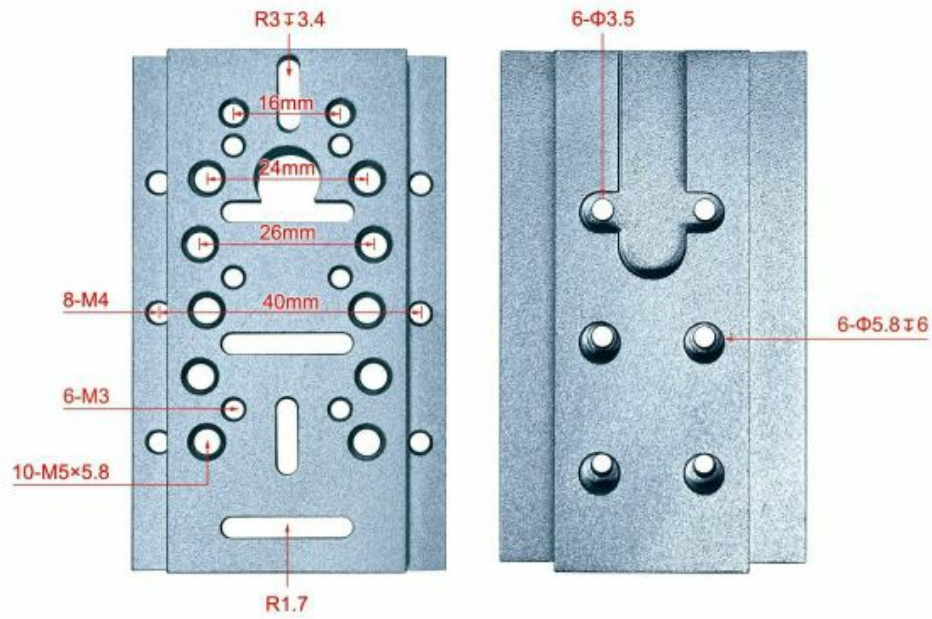
① Output A: 3PIN connector	② Output B: 3PIN connector
③ Input A: 4PIN connector	④ Input B: 4PIN connector
⑤ Input C: 3PIN connector	⑥ Input D: 2PIN connector
⑦ DC Input: 12V or 24V power adapter	
⑧ Power Switch: • EXT→External power supply • INT→Internal power supply	
⑨ Power indicator: It is red when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



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

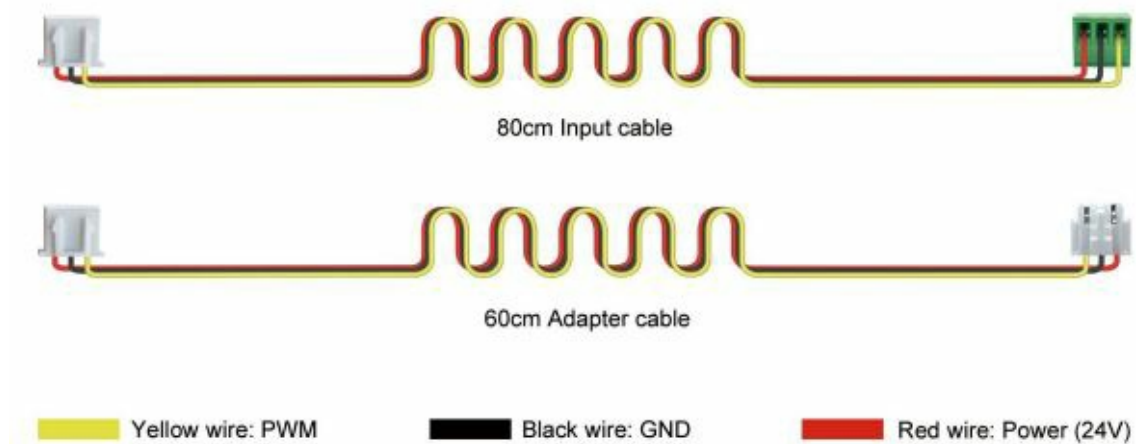


2.5mm L-wrench

Installation for sliding plate



PIN definition



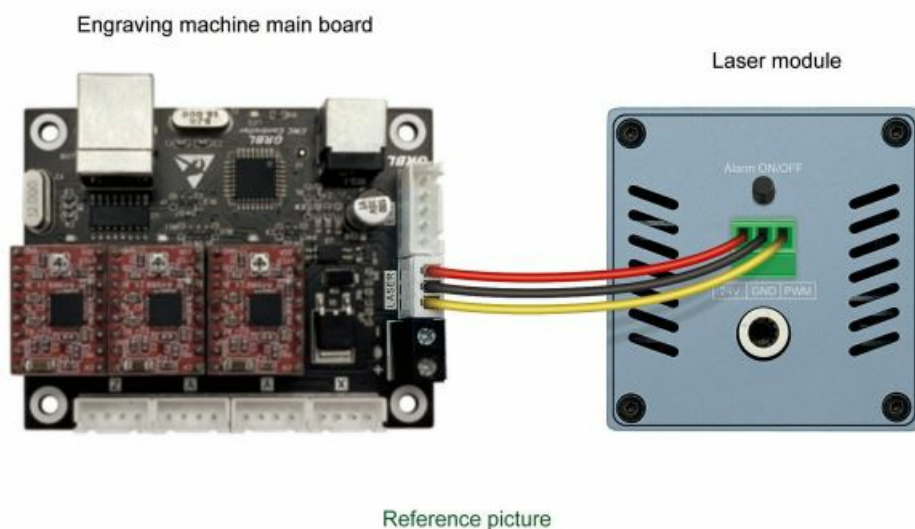
CONNECTION DESCRIPTION

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

- A. Check the voltage parameter of your engraving machine. Please ensure your engraving machine can provide at least 24V SA 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.

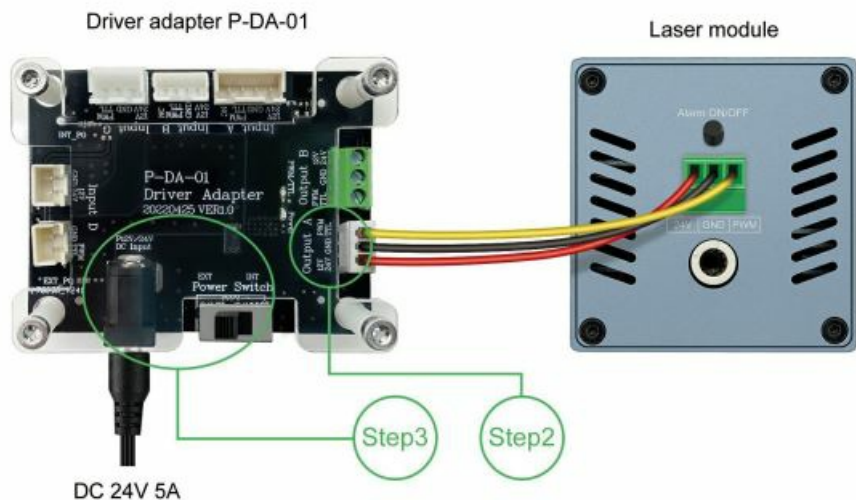


Only voltage is not matched.

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

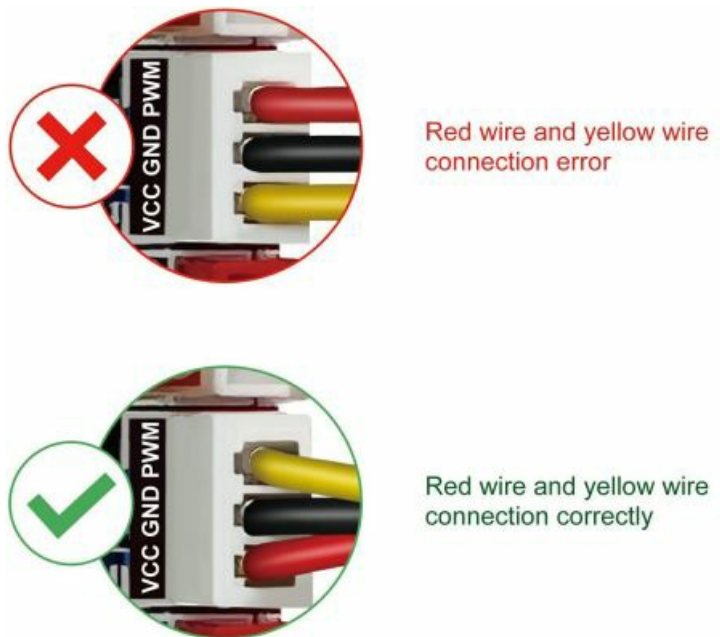
- Step 1: Connect the cable of your engraving machine to the corresponding input connector on P-DA-01.
- Step 2: Connect the cable of the laser module to the Output A connector on P-DA-01.
- Step 34: Connect the 24V power adapter to the DC Input connector on P-DA-01. Push the switch to the EXT position and the power is provided by external power adapter.



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.

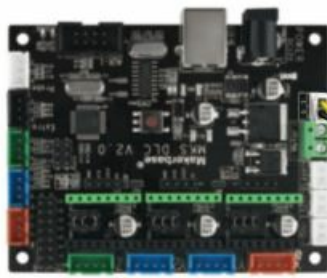


Situation 2: Please use P-DA-01 if the main board of your engraving machine is not 3-pin, such as 2-pin.

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

- **Step 1:** Connect the cable of the your engraving machine to the corresponding input connector on P-DA-01.
- **Step 2:** 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



DC24V 5A

FOCUS REFERENCE SETTINGS

The focal length of the K30 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
> 20mm	7mm



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.

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.


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. Fingerprints 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.



Documents / Resources

 <p>K30 USER MANUAL</p>	<p>LASER TREE K30 Engraver Cutter Upgrade [pdf] User Manual K30 Engraver Cutter Upgrade, K30, Engraver Cutter Upgrade, Cutter Upgrade, Upgrade</p>
---	--

References

- [User Manual](#)