

Fiber Laser Marking Machine Using Manual (30/50/60/100/200W)



Shenzhen Scotle Technology Group Limited

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1. Safety Information

1.1 The hazards of lasers and precautions

Laser marking machine is a Class 4 laser product with dangerous, invisible laser radiation. This product emits infrared laser radiation with a wavelength of 1064nm, which can cause damage to eyes and skin directly or indirectly exposed to such light intensity. This infrared radiation is invisible, and the laser beam can cause irreversible damage to the retina or cornea. Before operating the laser marking machine, be sure to wear appropriate and certified 1064nm near-infrared band laser protective glasses.

Important:

- ◎ Never look directly at the fiber output connector, and make sure to wear appropriate protective goggles when using the laser to avoid injury.
- ◎ Do not open the laser, because there are no product parts or accessories for users to use inside the laser.
- ◎ When using this product, please use a properly grounded power supply and normal voltage.
- ◎ Before starting the laser product, please ensure that the ambient temperature and humidity are within the specified range.
- ◎ Do not expose the product to an overly humid environment.
- ◎ The laser is cooled by air. Please ensure that the ambient air is dry and clean.
- ◎ Operations or adjustments beyond the scope specified in this manual may cause dangerous radiation damage.
- ◎ Keep the output galvanometer clean. After each use, please cover the protective cover. Do not touch the field lens with your hands, and do not use any solvent to clean the field lens. When necessary to clean and maintain the lens, be sure to use lens paper.

Warning:

- ◎ Operations or adjustments beyond the scope specified in this manual may cause radiation damage.

We prepare this protective goggles for the device, Optical density test results:

wavelength (nm)	optical density
1064	>



1.2 Safety Mark and CE Label

As shown in the table below, all safety warning signs (not limited to those affixed to the body of the laser) during the operation of the laser marking machine are included:

Safety signs	Description
	AVOID EYE OR SKIN EXPOSURE TO DIRECT OR SCATTERED RADIATION
	ALTERNATIVE LABEL FOR LASER APERTURE
	EMERGENCY STOP SWITCH FOR LASER SOURCE
	DANGER! ELECTRIC WORDS MARKED WITH AN ELECTRICAL WARNING SYMBOL INDICATE A POTENTIAL PHYSICAL HAZARD.
	EXPLANATORY LABEL

Huizhou Yunsheng CNC Equipment Co., Ltd.

Machine: Fiber Laser Machine

Brand: Ovsuqu

Model NO. : FL-200W

Power:200W

Weight: 63KG

Origin:China

Mfg. year: 2024.5

**Address: 5th Floor, Building A, Tianhai Innovation Technology Park,
Xihu Village Committee, Qluchang Street,
Huiyang District, Huizhou City, China**

TEL: +86 13244753448

TEL: +86 15820760539

Product name: Fiber laser machine

Manufacturer: Shenzhen Scotle Technology Group Ltd.

Address: Y1-214, Bantian Creative Park, Longgang District,
Shenzhen City, Guangdong Province



Company: E-CrossStu GmbH

Address: Felix-Dahn-Str 4, 70597 Stuttgart

Mail: E-CrossStu@web.de

Phone: +49 69332967674



1.3 Reference standards

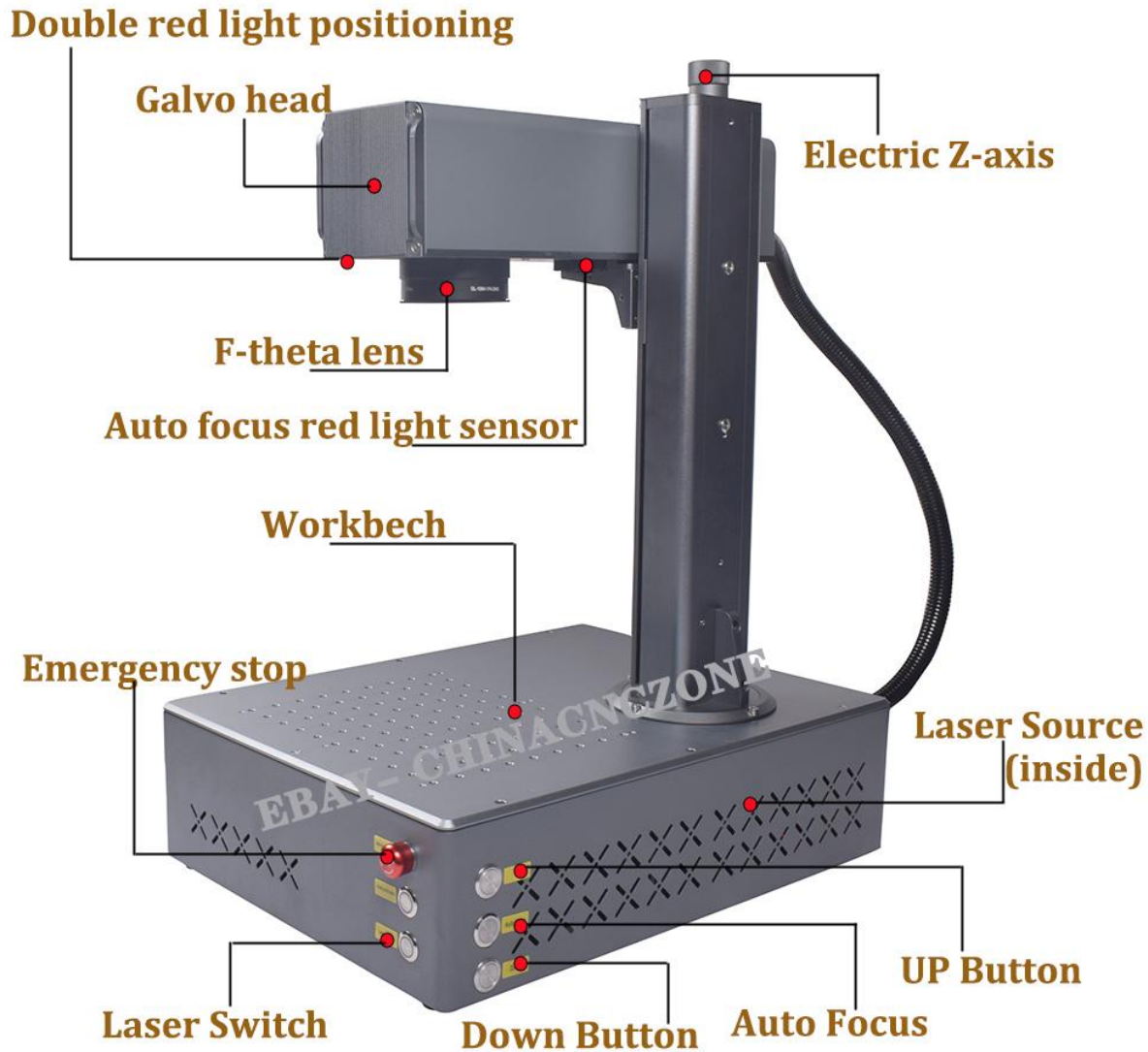
IEC 60825-1:2014
EN ISO 12100:2010; EN 60204-1:2018
EN ISO 11553-1:2020+A11:2020

EN ISO 12100:2010;
EN 60204-1:2018
EN ISO 11553-1:2020+A11:2020
FDA number: 2320736-000

Please note:

© According to EU and national standards and requirements, lasers must be classified according to their output power and laser wavelength. All high-power MFSC series laser products belong to Class 4 products (according to EN 60825-1, Chapter 8)

2. Machine Introduction

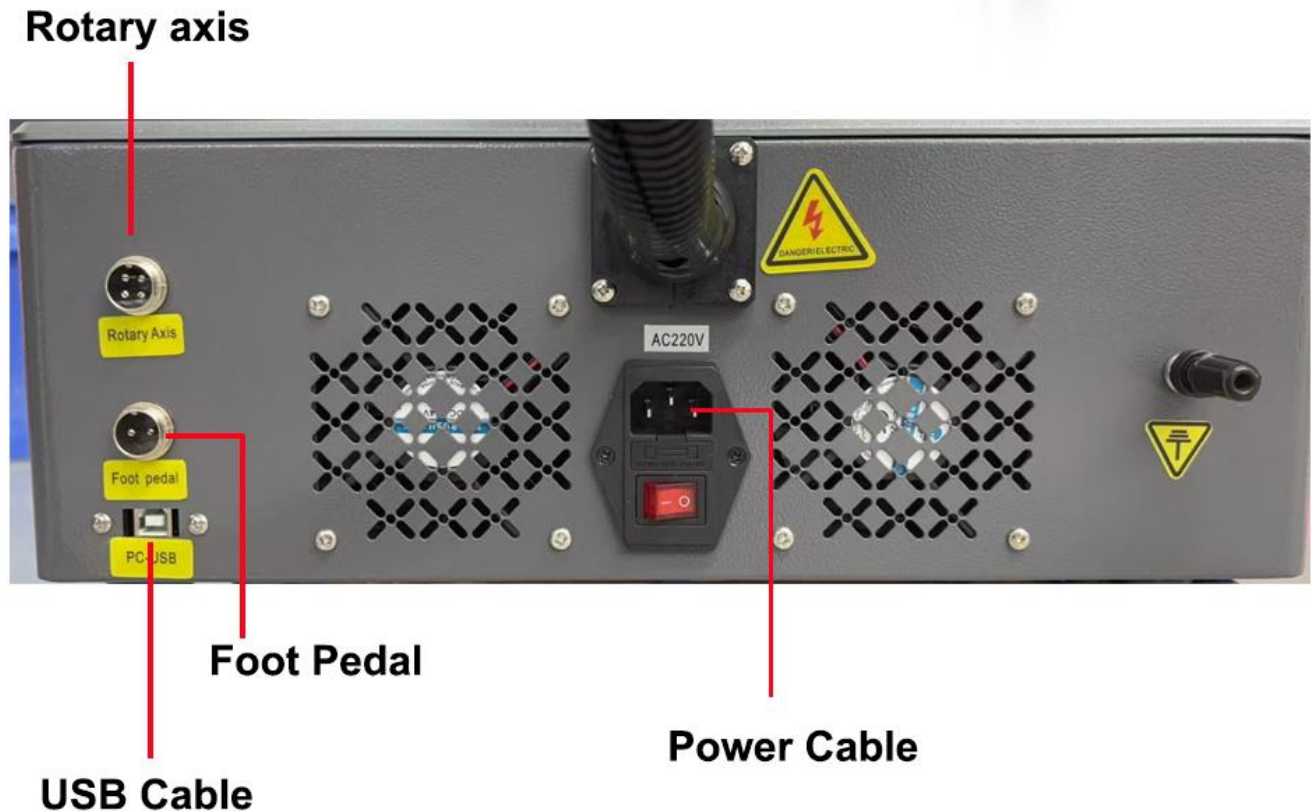


3. Packing List

Packing List for Fiber Laser Marking Machine			
			
1X Fiber Laser Machine	JPT Mopa Laser source	EZCAD 2 Lite Software	Fume Extractor (Optional)
			
Glasses	Foot Switch	Rotary Axis (Optional)	U disk for Software / Manual
			
USB Cable & Power Cable	Wrench	Fixed Fixture	

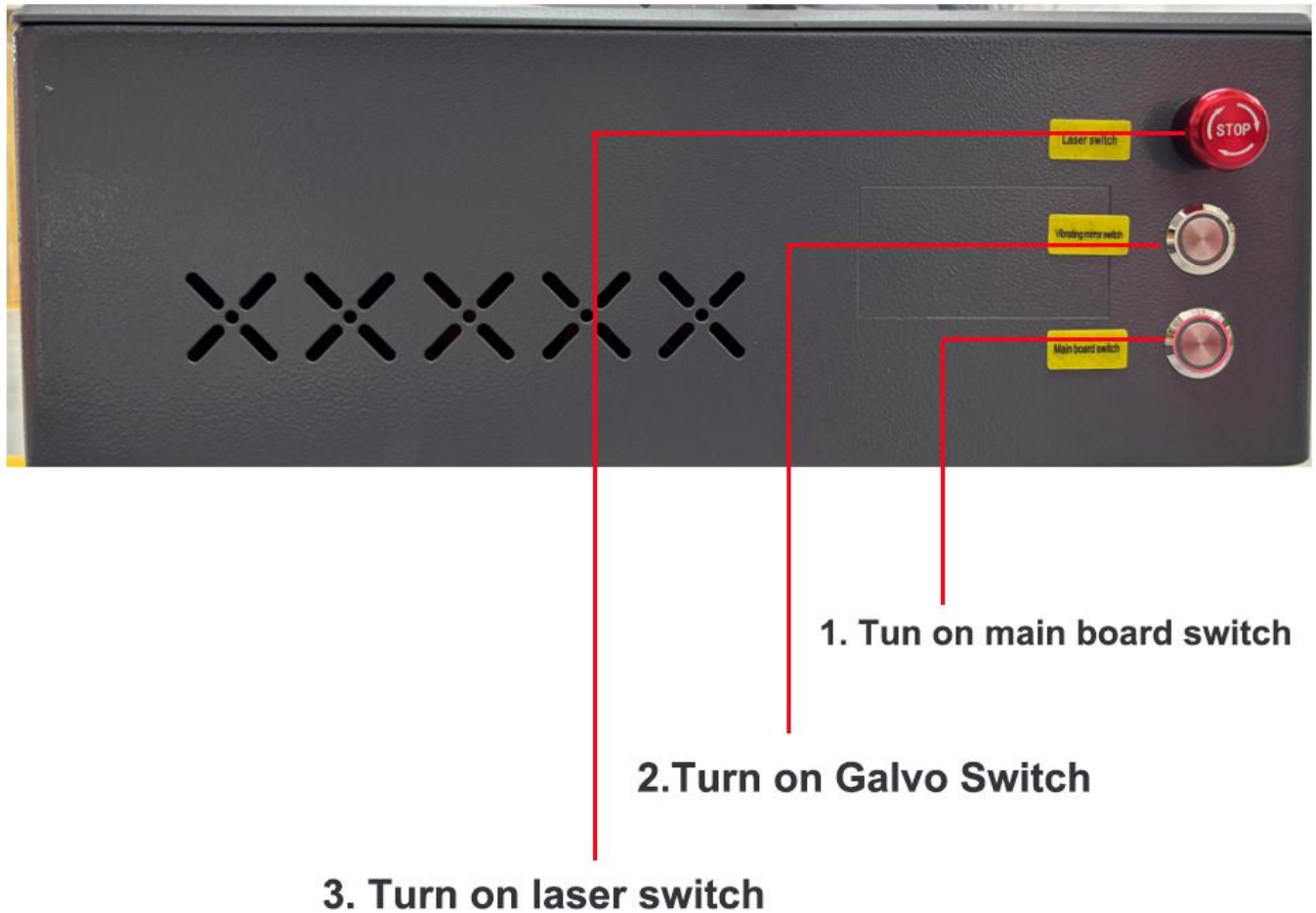
4. Connections

You will get 4 cables as following picture, USB cable, power cable, the cable for foot pedal and rotary axis (optional):



5. Power on

Turn on the following three switches: main board switch -->galvo switch-->Laser switch (from bottom to top)



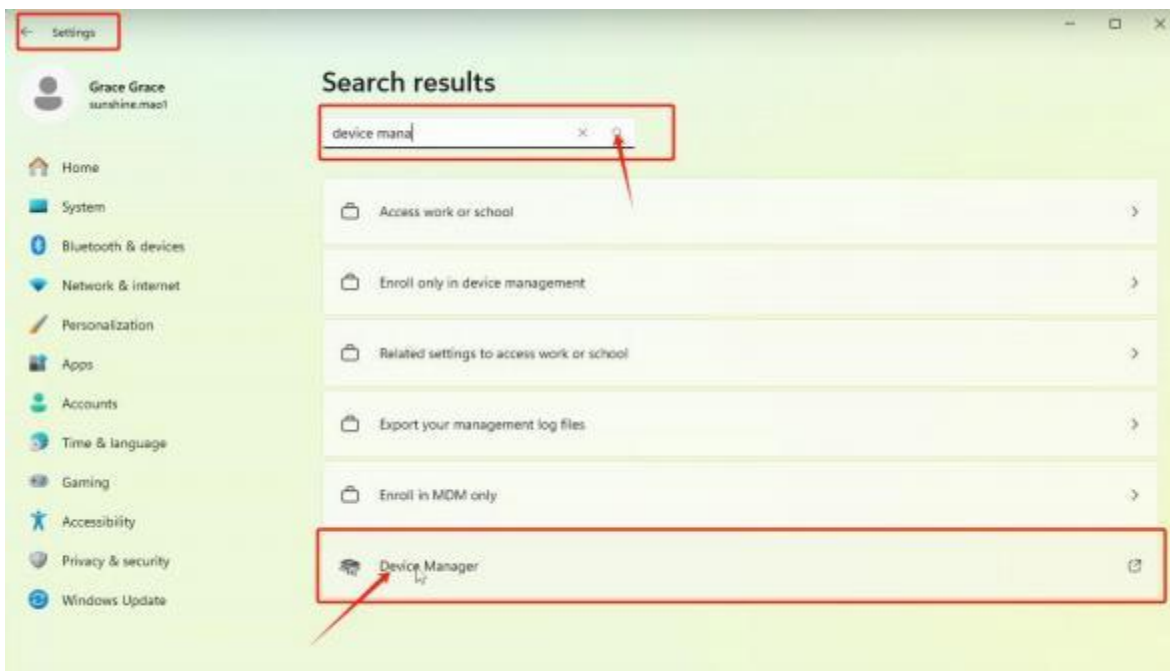
(After machine powered on, turn on the three switches in sequence)

6. Software Installation(Win11 as example)

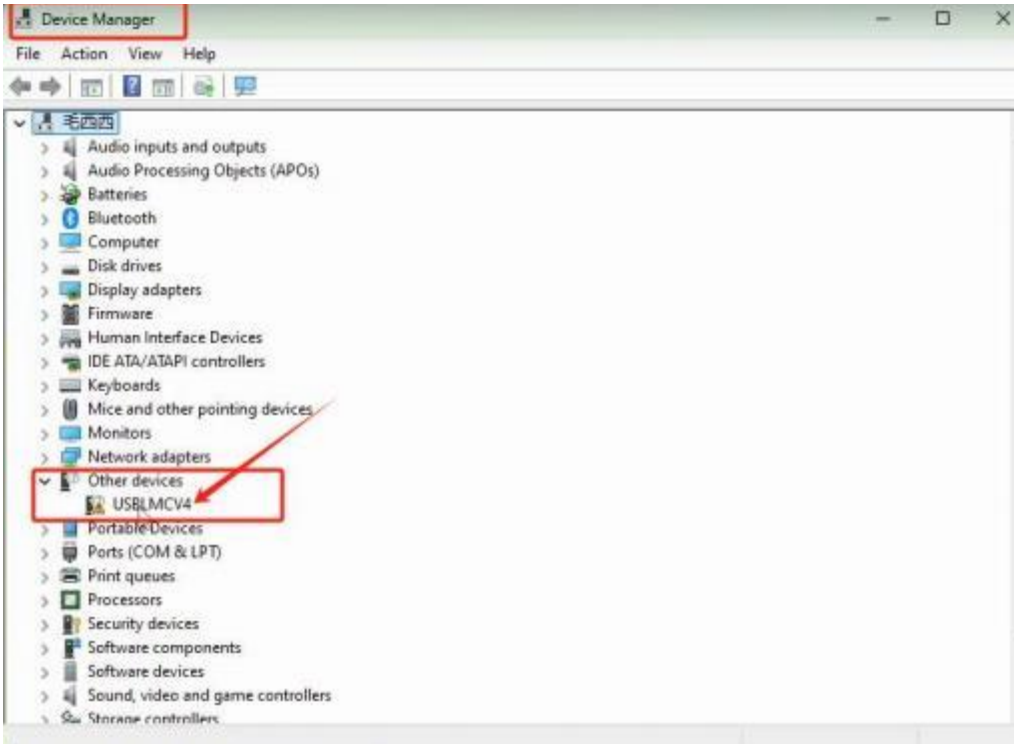
Note: Turn off the anti-virus software and firewall (if there are any) before downloading and then install the software .(See the QA)

Step1: Open USB flash drive folder on computer for spare

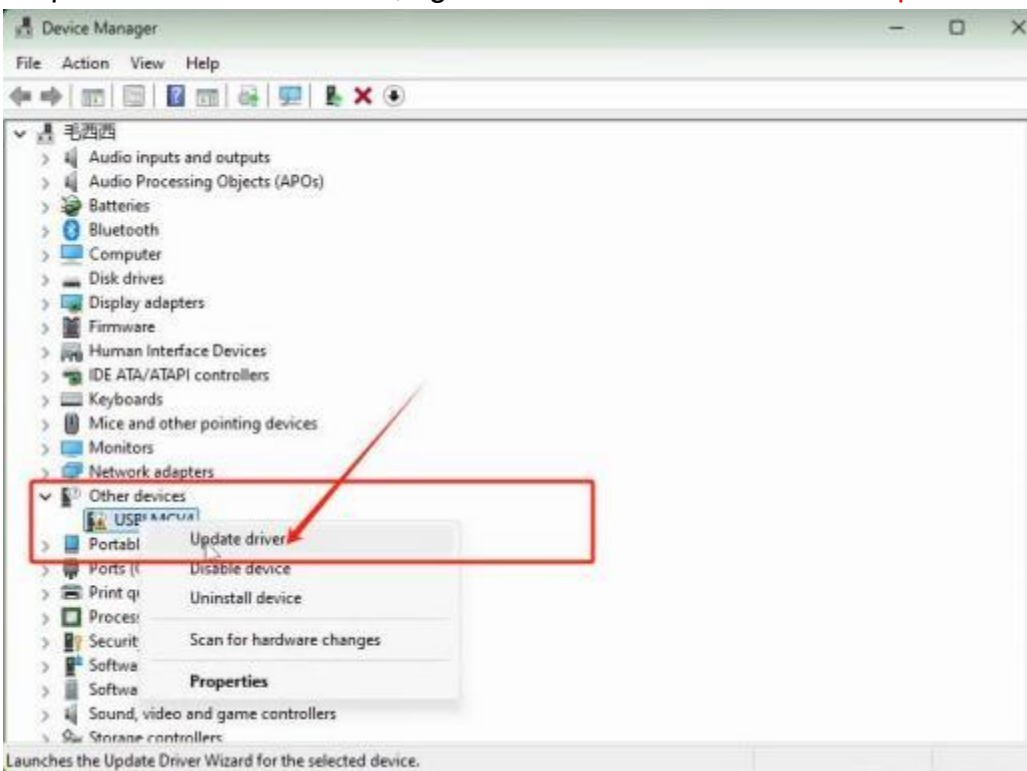
Step2: Open setting--find out “Device Manage”



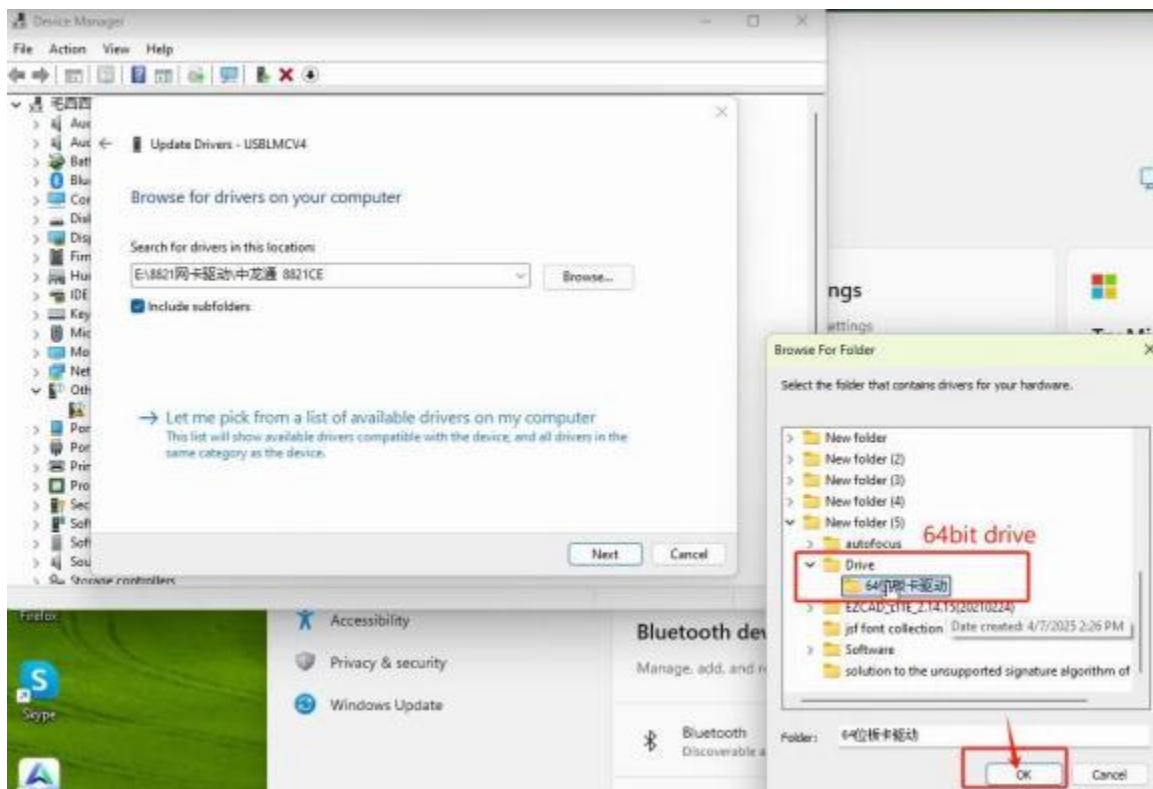
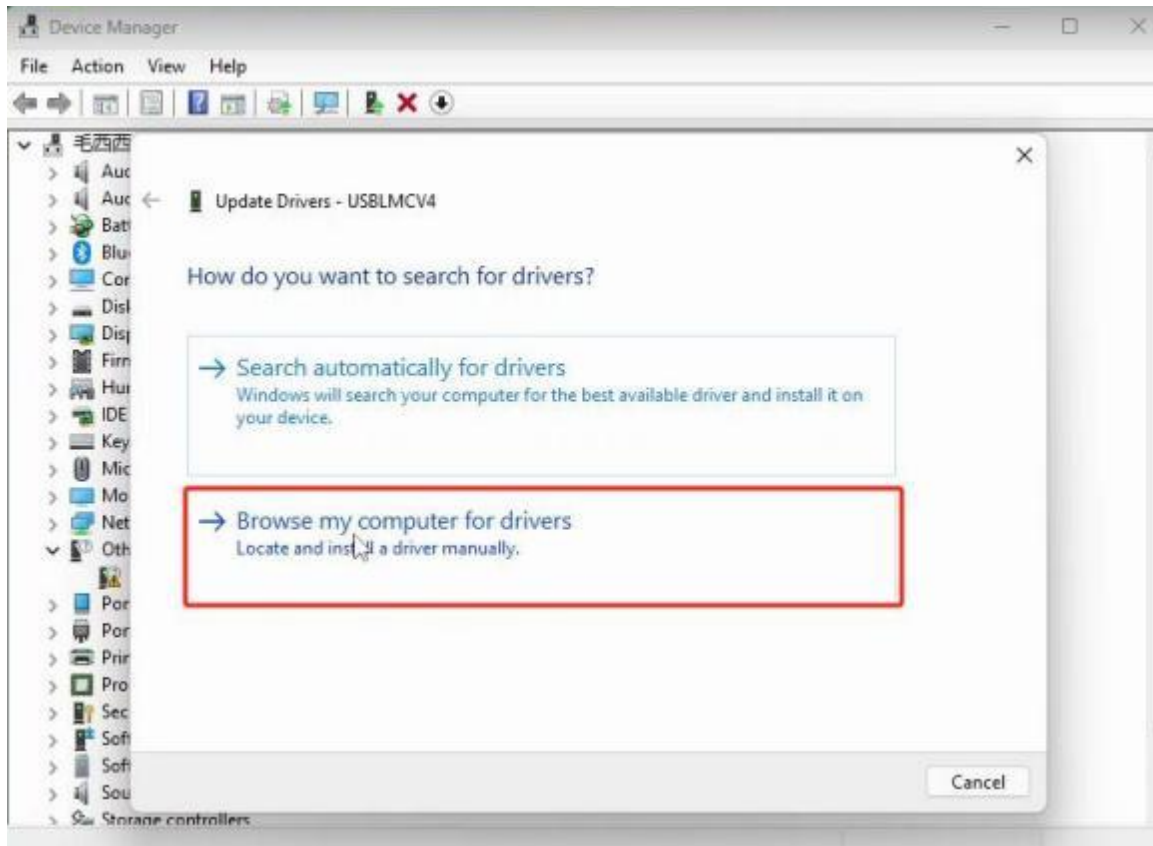
Step3: Click the "Device Manager" and open the "other devices"--Shows "USBLMCV4"



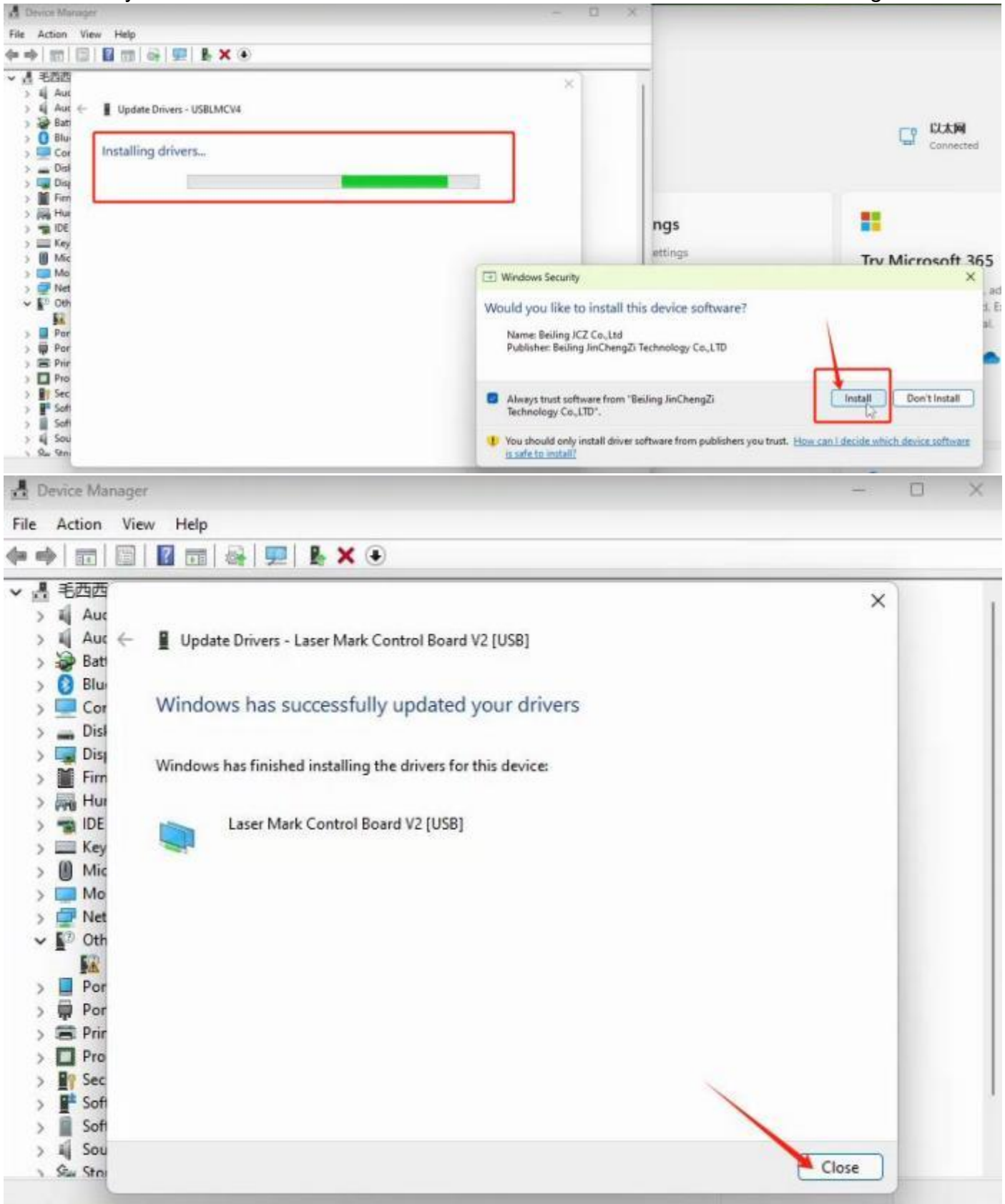
Step4: Select "USBLMCV4", right click the mouse and select "update driver "

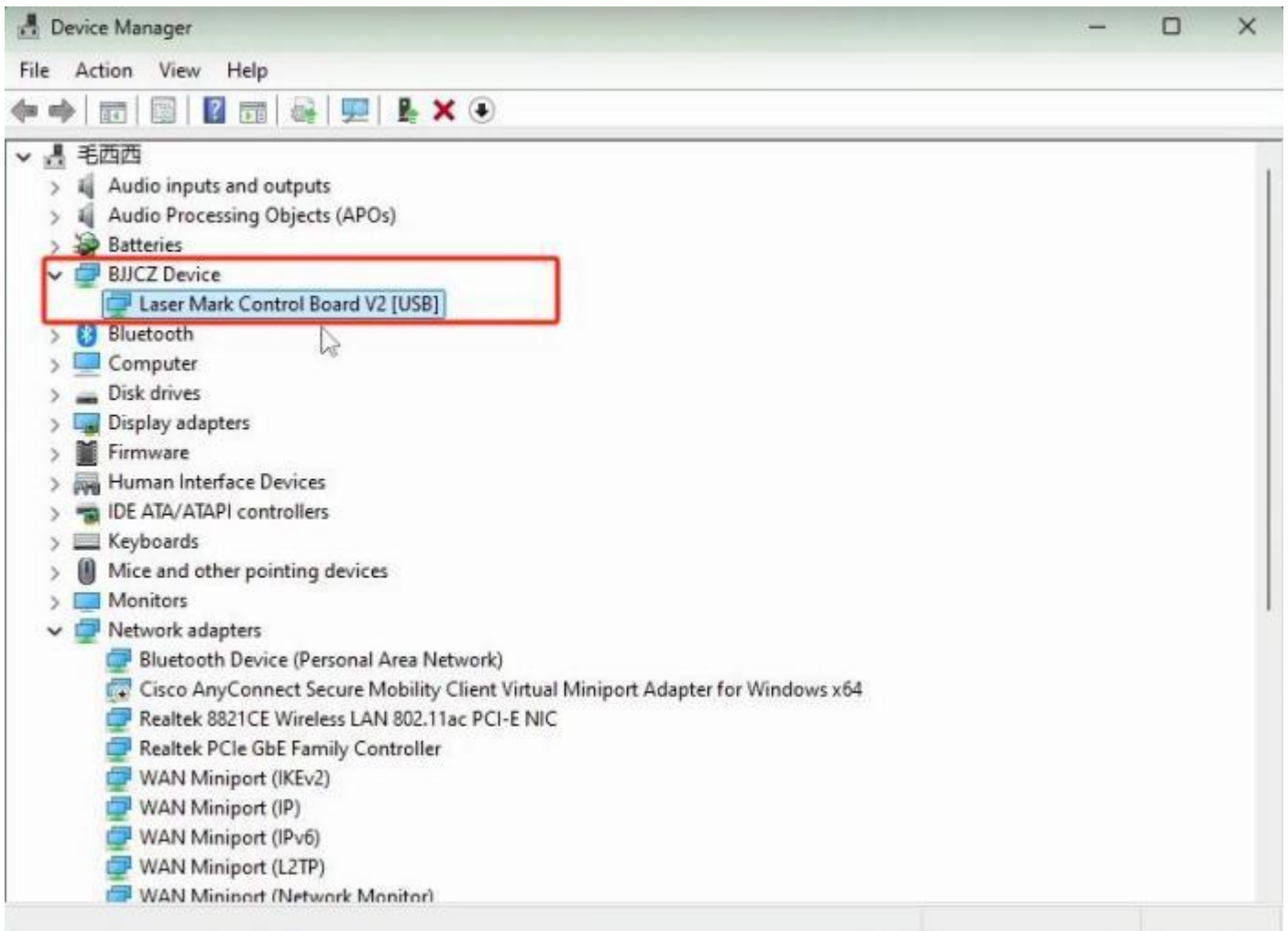


Step 5 : Choose Browse my computer for drivers--Browse--choose the 64bit Drive--Click "OK" --Click "Next"



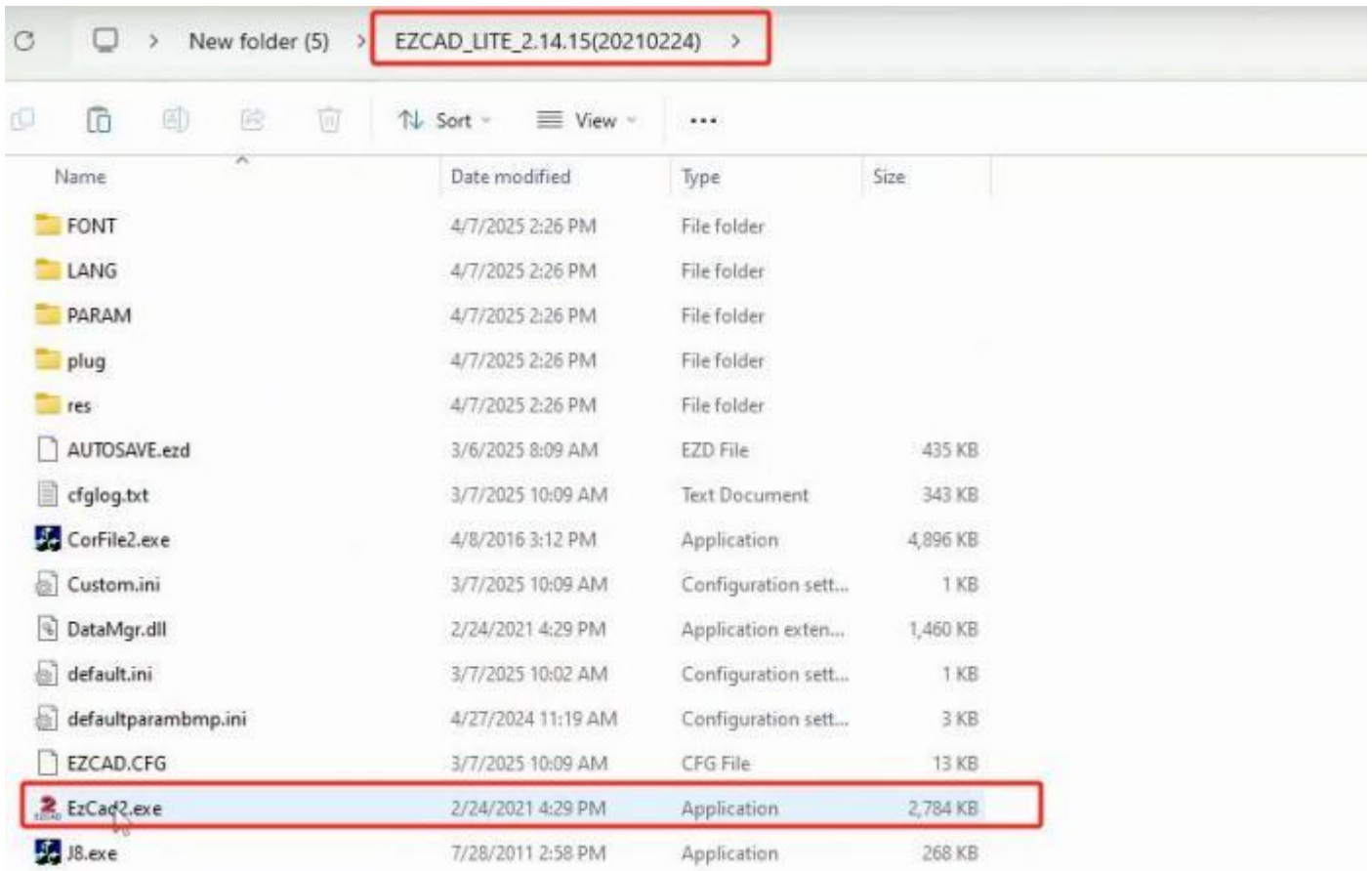
Step 6 : Start install the drive, it will be come out a notices--Choose "Install"--when finished,click the "close"--you will see the drive name "Laser mark control board V2" on device manger



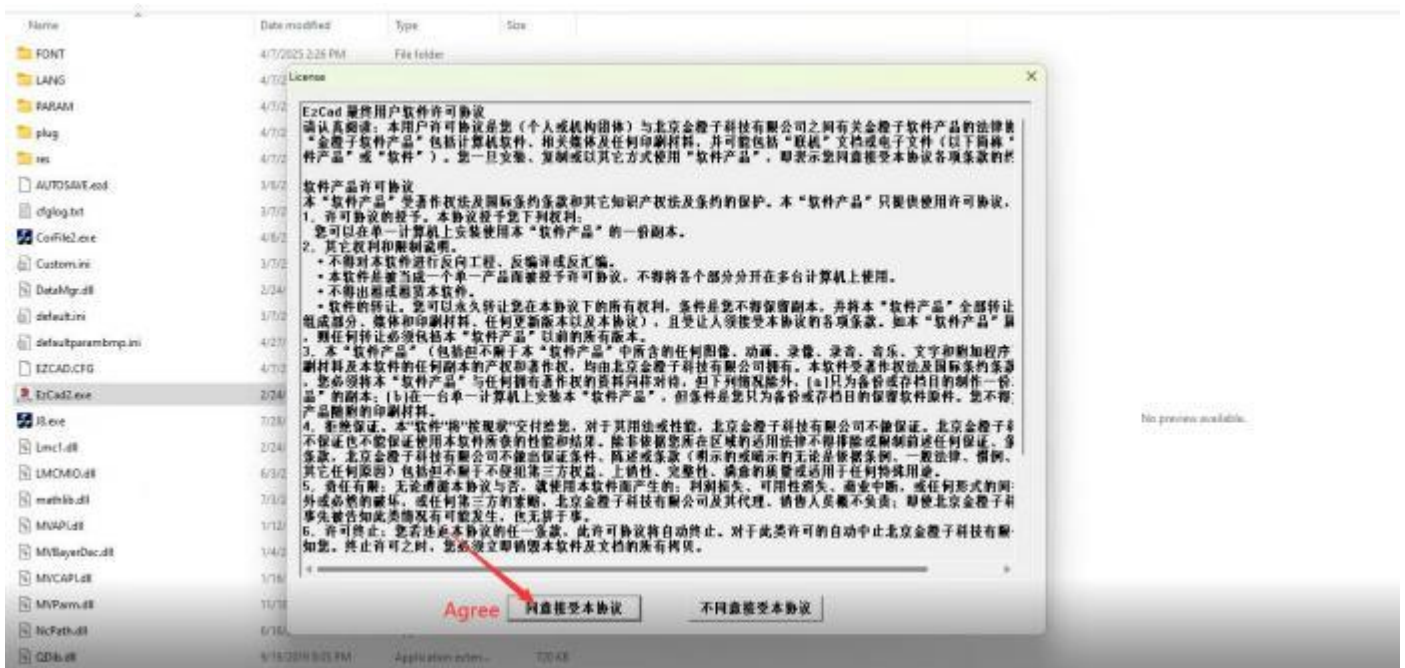


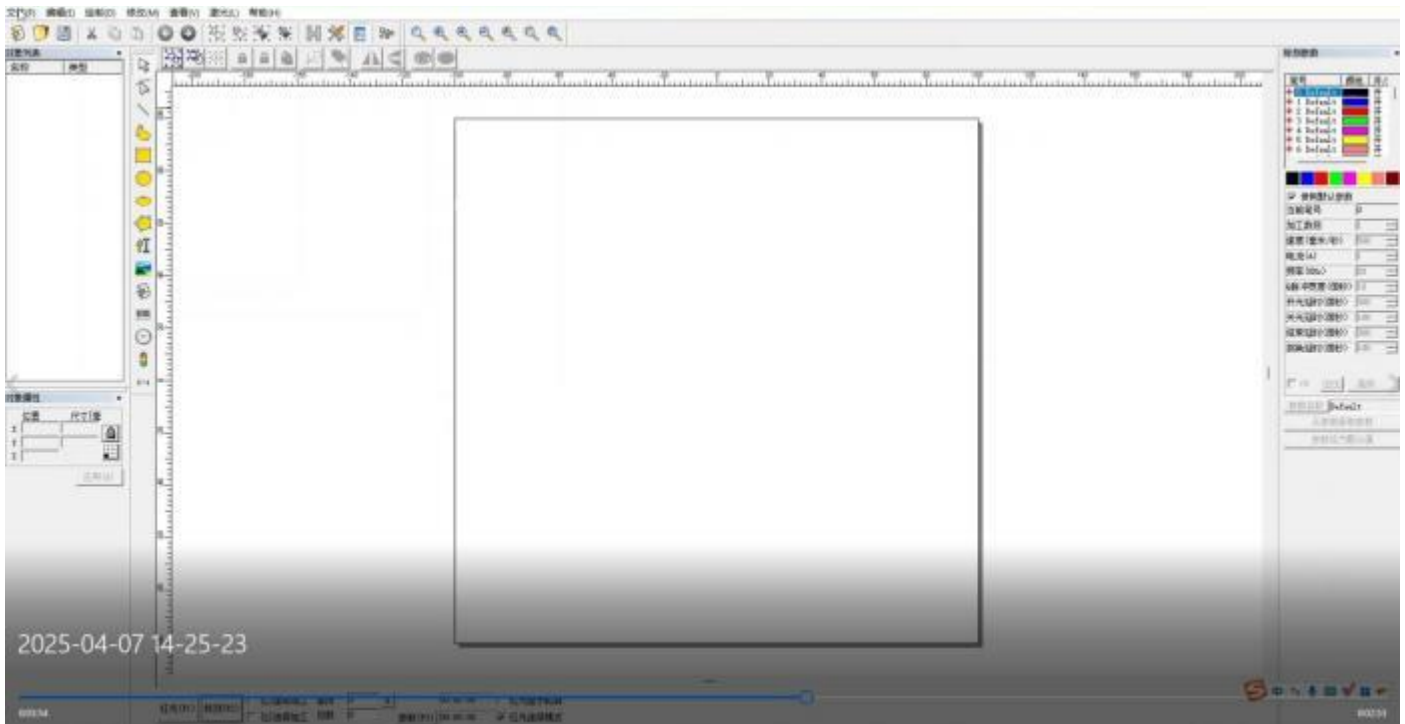
Step 7: Start install software--Open the software folder--open Ezcad lite 2.14-- double click “EzCad 2.exe”

Name	Date modified	Type	Size
autofocus	4/7/2025 2:26 PM	File folder	
Drive	4/7/2025 2:26 PM	File folder	
EZCAD_LITE_2.14.15(20210224)	4/7/2025 2:26 PM	File folder	
jsf font collection	4/7/2025 2:26 PM	File folder	
Software	4/7/2025 2:26 PM	File folder	
solution to the unsupported signature al...	8/12/2023 12:09 PM	File folder	
Board Driver Update Tutorial.avi	9/13/2020 9:03 AM	AVI File	12,820 KB
CoFile External Calibration Instructions.pdf	7/6/2021 6:44 PM	WPS PDF 文档	308 KB
Focal length.txt	3/6/2025 6:41 PM	Text Document	1 KB
manual For Ezcad software.pdf	11/16/2019 6:31 PM	WPS PDF 文档	2,075 KB
markcfg7	3/7/2025 9:58 AM	File	11 KB
Parameter.png	8/2/2021 2:26 PM	PNG 图片文件	103 KB



Step 8: The software will notices whether you agree to the installation. Click "Agree" to enter the homepage of the software--**Software installation complete**





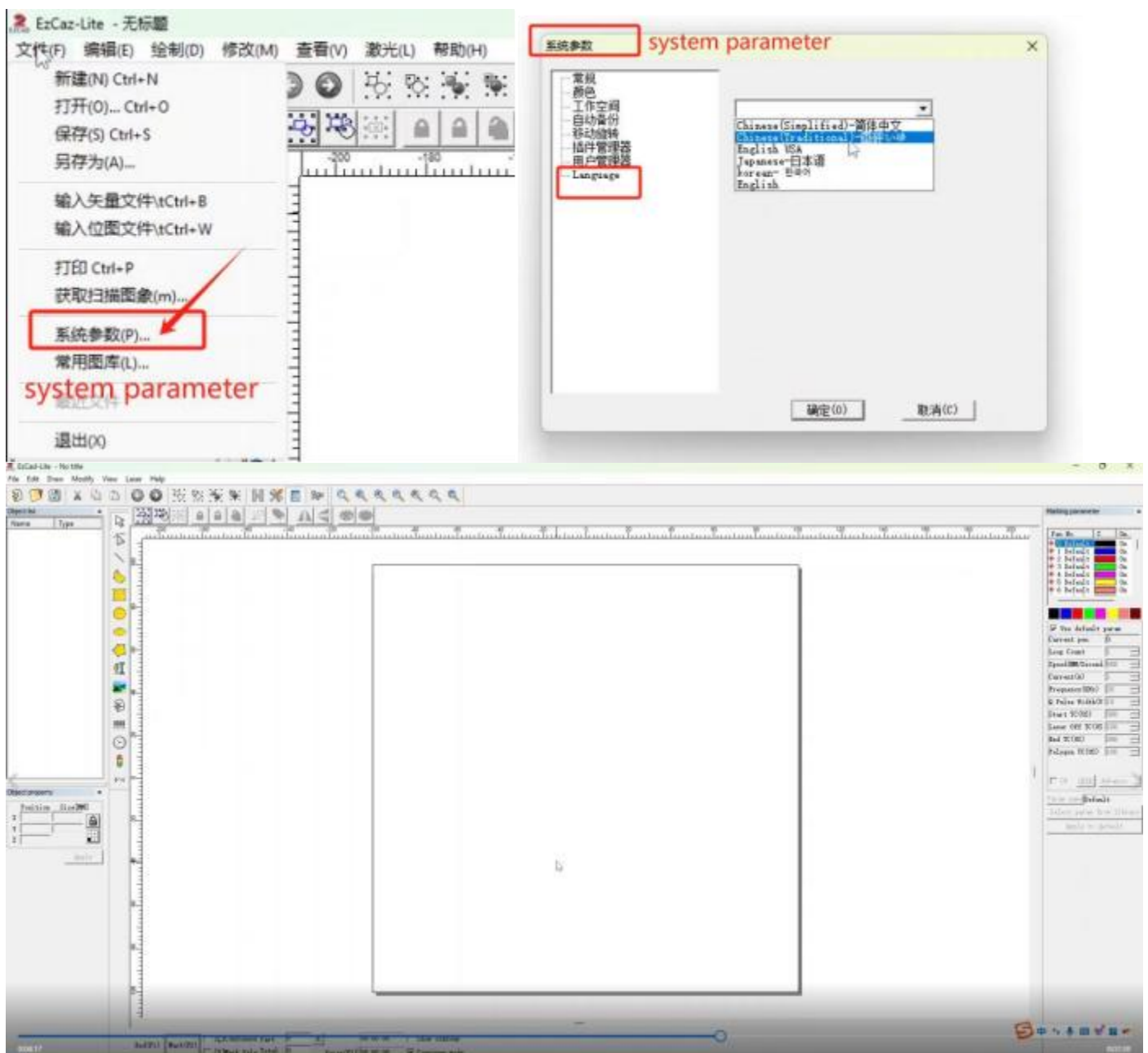
(Ezcad Home Page)

For the introduction of the software page, please read the "Manual"
Get more detail please click the below link:

<https://youtu.be/RxXOsDfdPKc>

7. Change Software Language

Open Ezcad Home Page--Click Files--System parameter--Language,choose the language you need, and then click OK--Close the software and open it again, and the new language will be applied.



8. How to adjust auto focus after change field len

When you receive machine and we already adjust focue length well .no need to adjust focus length again .after put material on the working table .just need to press the autofocus bottom, Machine will adjust focus length autosef.



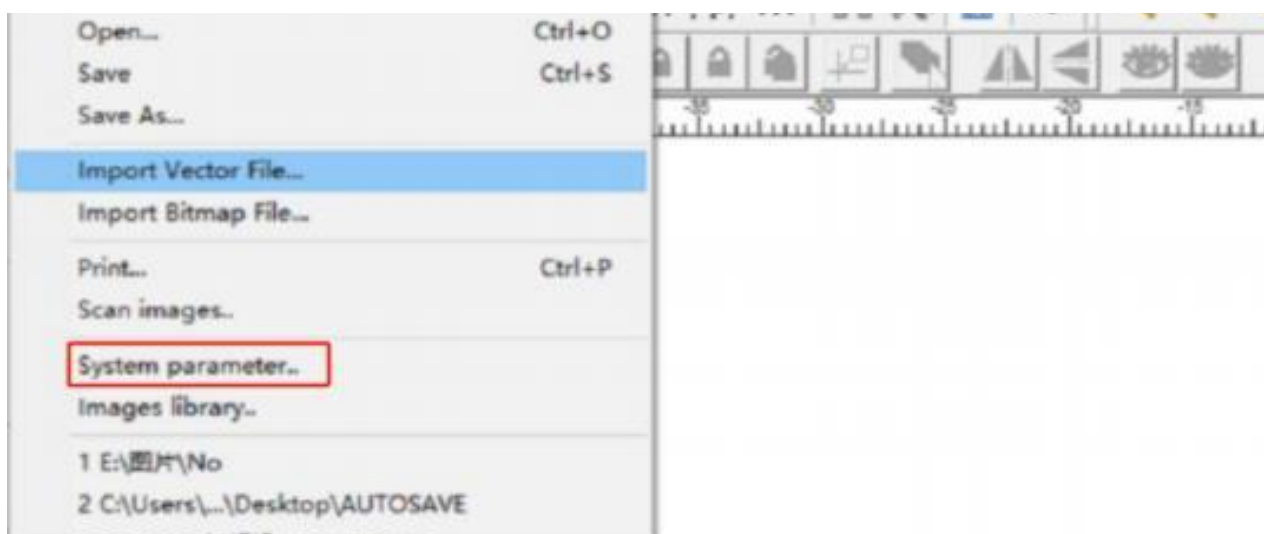
If you change anothr filed lens ,please adjust the focus length by manual,and then long press the autofocus bottom over 3 seconds .Let machine remember correct focus length. and then press autofocus bottom ,machine will found correct focus length automatic.

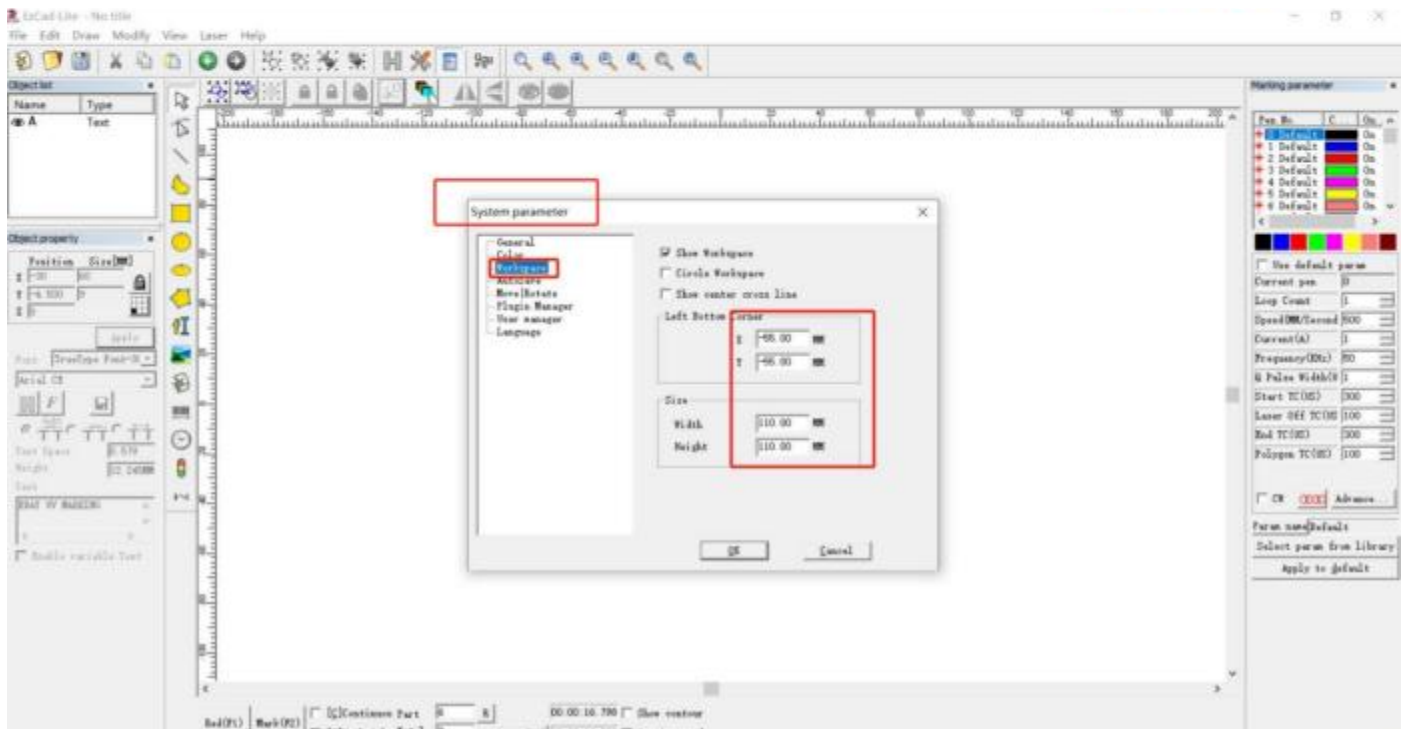
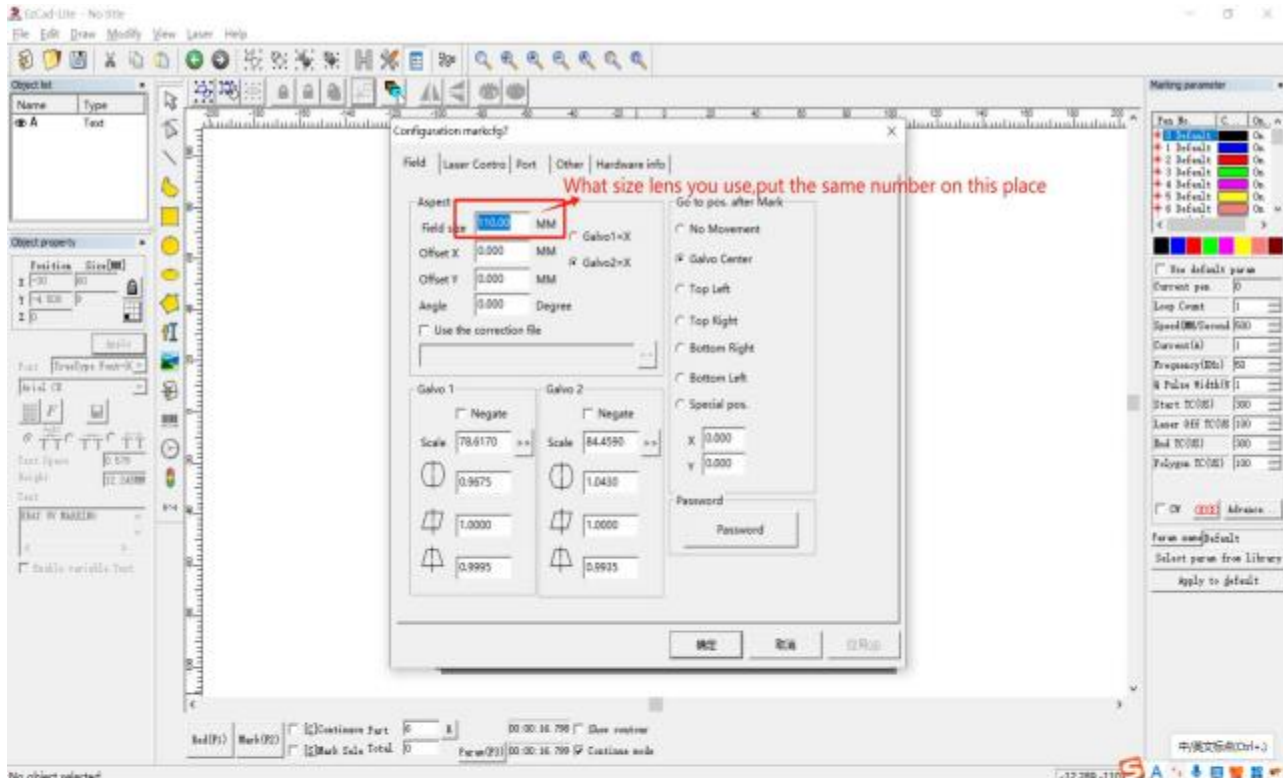
9. Field Lens Replacement

Step1: Hold the field lens and then turn the field lens clockwise

Step2: Software change the filed lens: Click "Files"--Parameter system parameter--change the filed size after replacement--Click workspace,X and Y write the number of half of your field lens.

Step3: Readjust the focus(Refer to the focus setting way)





Focal Length (mm)	ScanField (mm)	Input Beam EP (mm)	WD(mm)	Mounting Thread
F100	70x70	10	105	M85*1
F160	110×110	10	176	M85*1
F210	150x150	10	225	M85*1
F210	150x150	10		M85*1
F254	175x175	10	267	M85*1
F254	175x175	10		M85*1
F290	200x200	10	305.8	M85*1
F330	220x220	10	354	M85*1
F420	300x300	10	442	M85*1

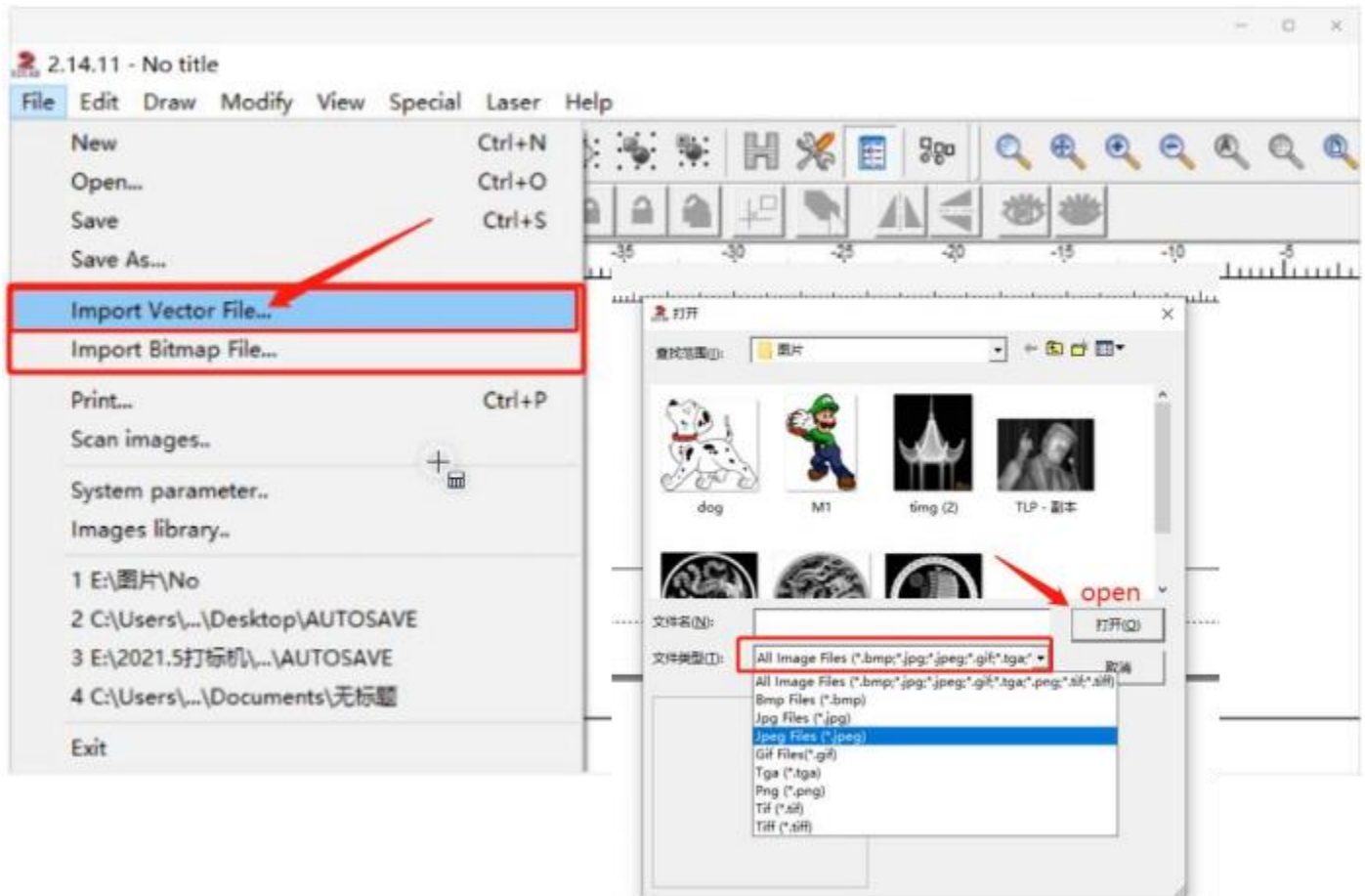
10.How to use the software to mark

10.1 Import Files (Or create text directly on the software)

10.1.1 How to Import Files

Click Files in the upper left corner--Click Import Vector File (SVG,EPS) / Bitmap File (JPG,PNG,BMP), --Find out the files, and click open.

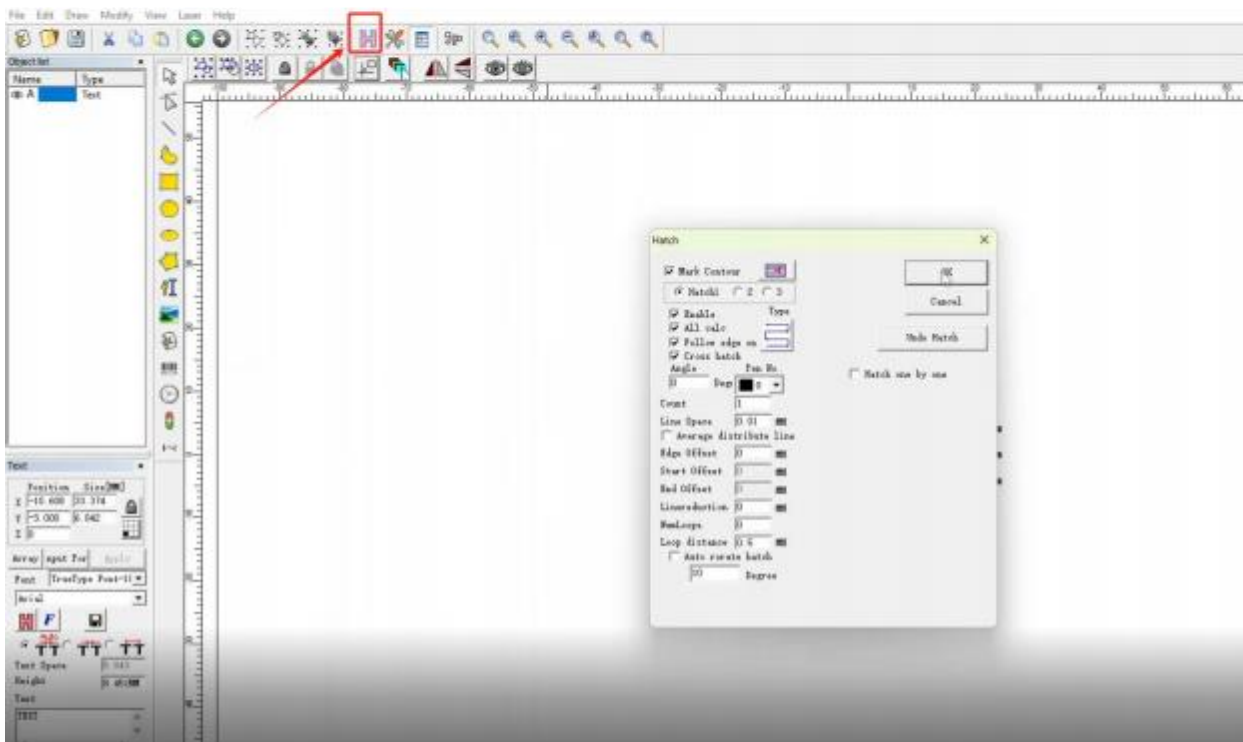
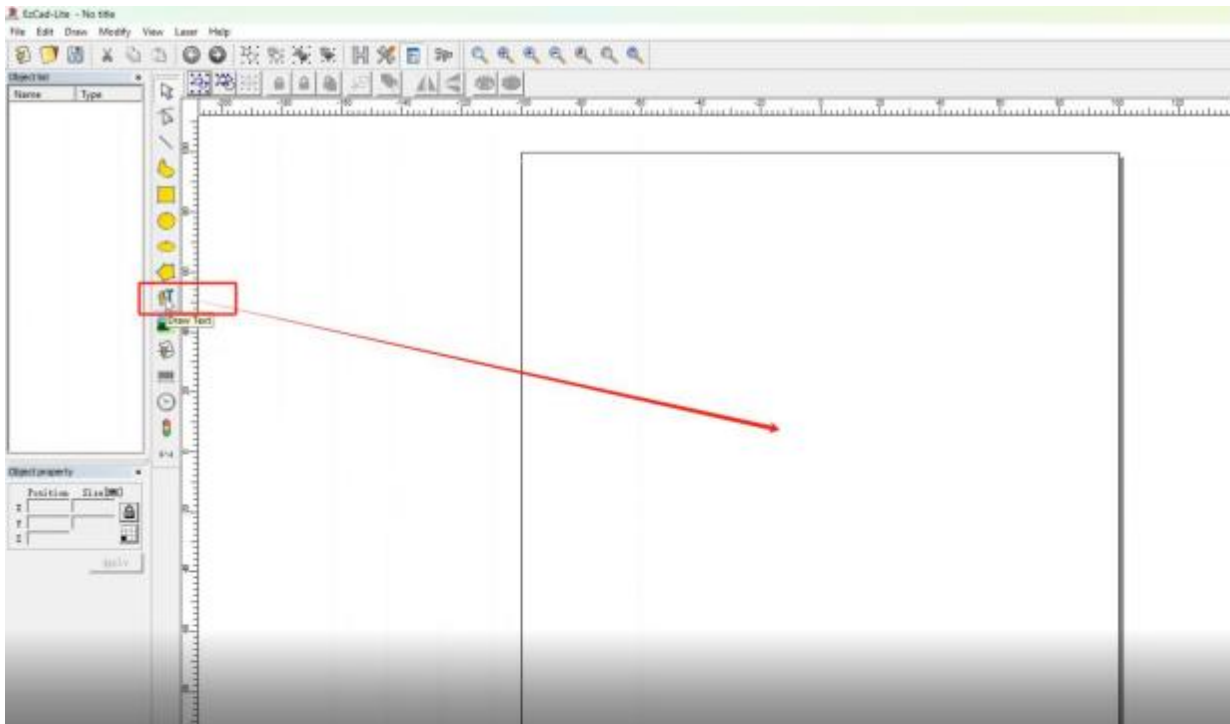
Note: If print the picture, we suggest import Vector File,more clearer, without distortion.



10.1.2 How to create text directly on the software

Step1: Draw Text to the marking frame

Step2: Click the "H", Fill in the text if you need; For example, if the text you type is empty, it needs to be filled to obtain solid text.(Refer to the sample pictures)



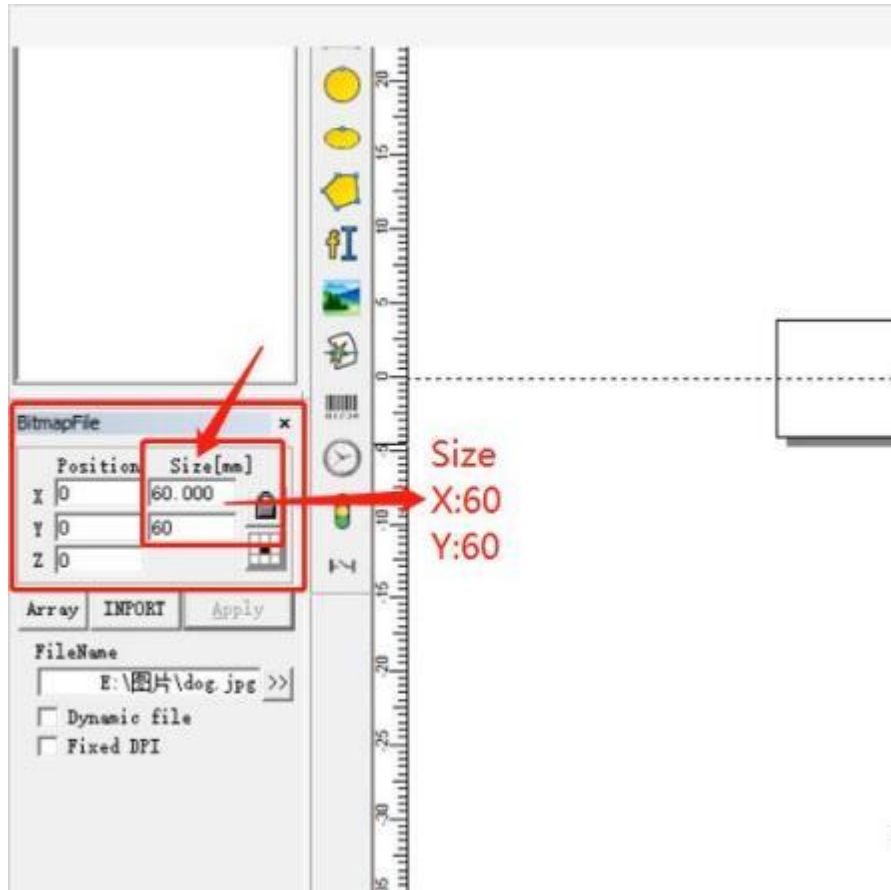
Sample:

TEXT

TEXT

10.2 Set up marking range

Click Size, change the number to 60(X) 60(Y) <Standard Range>--Click "Apply"



10.3 Set up Marking Parameter

Step1: Click Cancel default parameter(if choose the default parameter, it will be no laser come out)

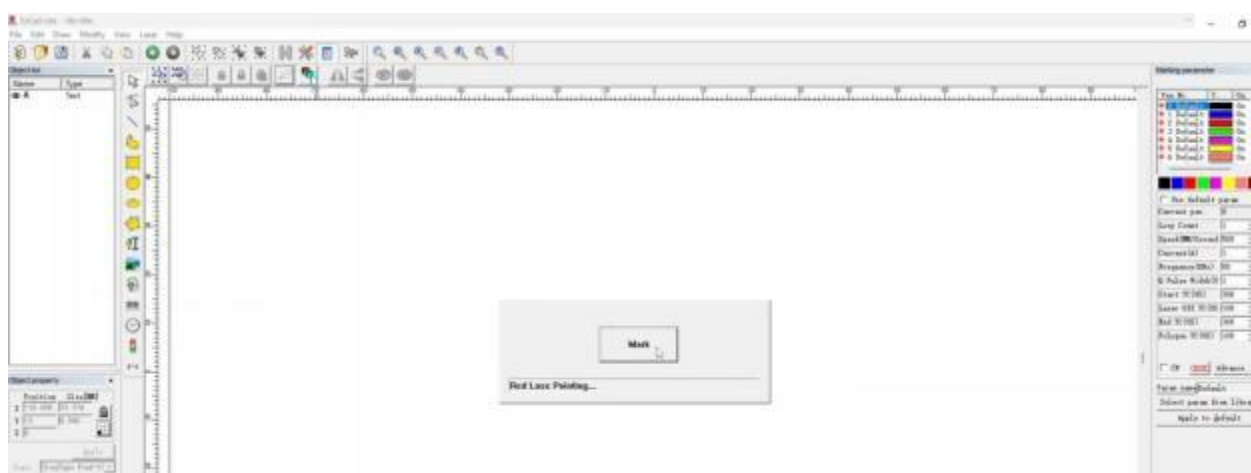
Step2: Change the Frequency and Q Pulse width, (setting wrong will be no laser come out)

--Note: Q Pulse width > 400, You can reference the laser source paper to setting

Step 3: Set up multiple times marking if you need(Not a necessary step)

--Choose ☐ continue means Marking multiple times

Step4: Click Mark(F3)



11.Reference for parameter setting

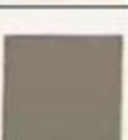
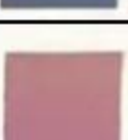
50W Marking (non-MOPA) 110x110 Format			
Material	Aluminum	Stainless Steel	Copper
Speed	500	500	500
Power	50	50	50
Frequency	20	20	20
Laser on TC	300	800	-300
Other	Default		

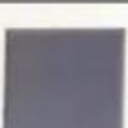
Cutting Parameter Material: Silver/Gold (Within 3MM)			
Product Model	100W	200W	300W
Power	90	90	80
Frequency	67	130	190
Pulse	500	500	500
Space Line	0.1-0.2MM		
Other	Default		

Marking Parameter Material: Aluminium, stainless steel, copper			
Product Model	60W	100W	200W
Material	Aluminium, stainless steel, copper		
Speed	2000	1500	800
Power	70	60	80
Frequency	35	70	240
Q Pulse	500	400	200
Laser on TC			
Other	Default		

Note:

- 1.Cutting requires manually adjusting the focus: The normal focus is only 0.2-0.3mm. So, if you need to cut 3mm, after several cuts, the focus will change.
- 2.The above parameters are for reference only. If you want better results, adjustments are needed.

JPT 60W 175X175MM Color marking on stainless (Reference)					
Color	Speed (mm/s)	Power(%)	Frequency (KHz)	Q Pulse width	Line spacing (mm)
	1200	82	500	2	0.001
	1500	35	360	45	0.002
	1500	30	350	13	0.001
	1500	60	600	4	0.001
	2500	30	800	10	0.002
	1200	82	500	2	0.002
	2000	31	400	60	0.001
	1000	50	1300	2	0.01
	1000	29	360	45	0.002
	1800	90	200	4	0.002

JPT 100W 175X175MM Color marking on stainless (Reference)					
Color	Speed (mm/s)	Power(%)	Frequency (KHz)	Q Pulse width	Line spacing (mm)
	1200	82	500	2	0.001
	2000	18	400	100	0.002
	1500	30	350	13	0.001
	1500	60	600	4	0.001
	1200	82	500	2	0.002
	2300	25	600	10	0.003
	2000	19	400	60	0.001
	2000	28	400	60	0.001
	800	13	360	45	0.002
	2000	100	200	4	0.002

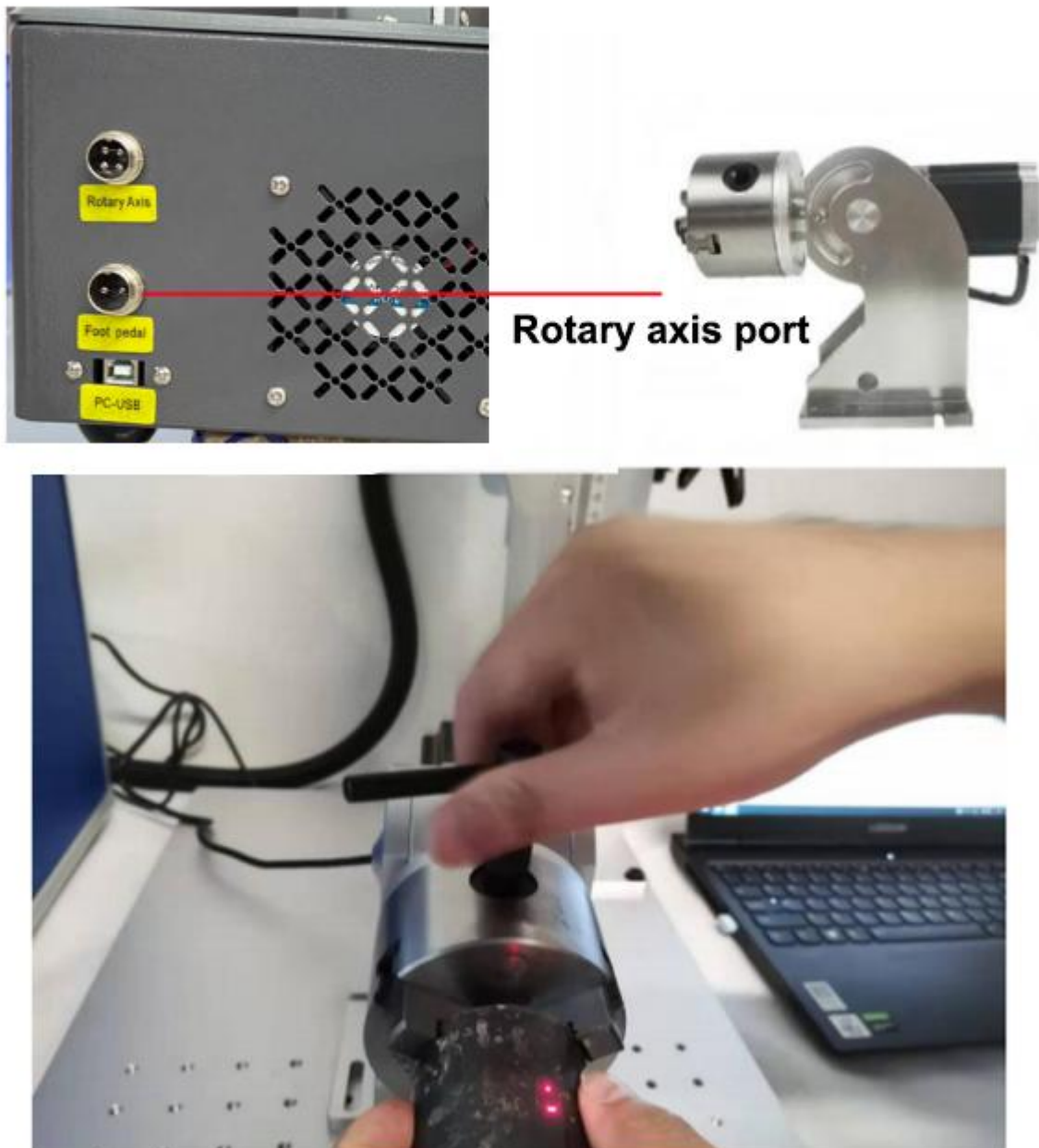
12.Rotary Axis Setting (if you bought a rotary axis)

Step1: Taking out the rotary axis and connect it to the machine as following picture.

Step2: Fixing the marking material

Place the rotary axis, hold the material by the tool until the material is fixed on the rotary axis.
(fix material tool)

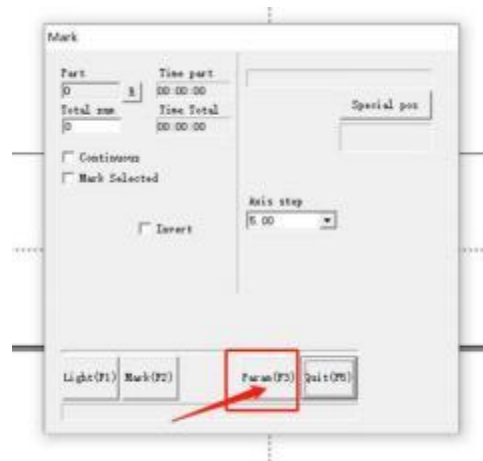
Step 3: Focusing Adjust the distance between the material and the field lens until the two points coincide.



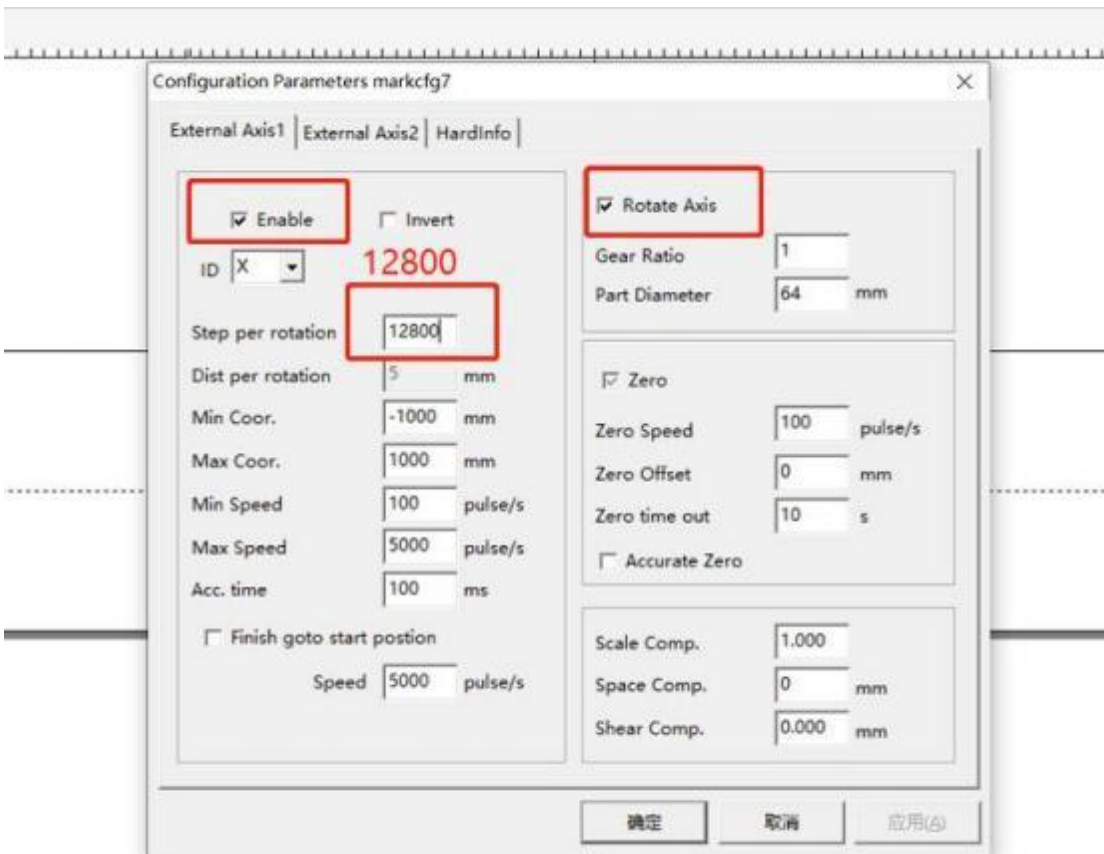
13. Marking on Rotary Axis

13.1 Marking TEXT

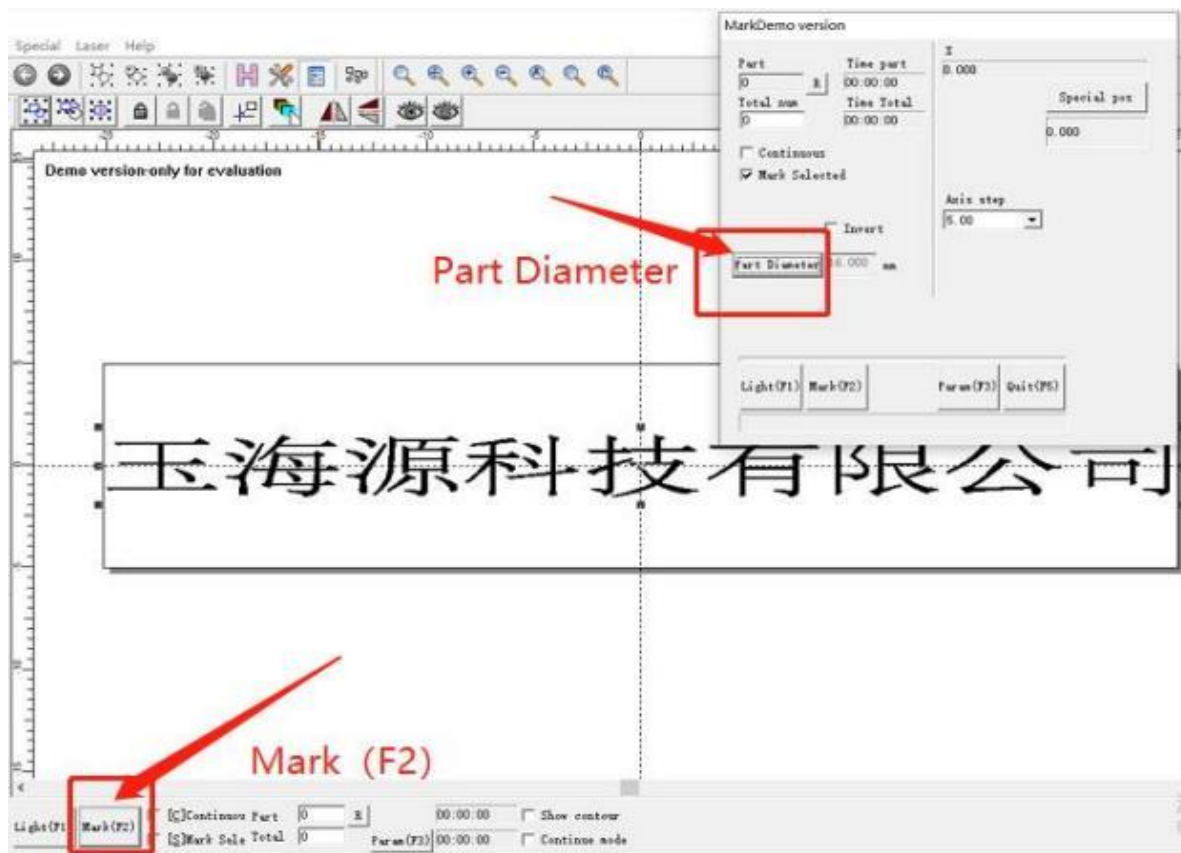
Step1: Click "Laser", choose "rotate TextMark"--Click "Param (F3)"



Step2: Check "☐enable" "☐Rotary Axis", set up "Step per rotation to 12800", Click OK.



Step3: Find out the “Mark” button in the bottom left corner, Click “Part Diameter”. (Part Diameter = $X/3.14$).

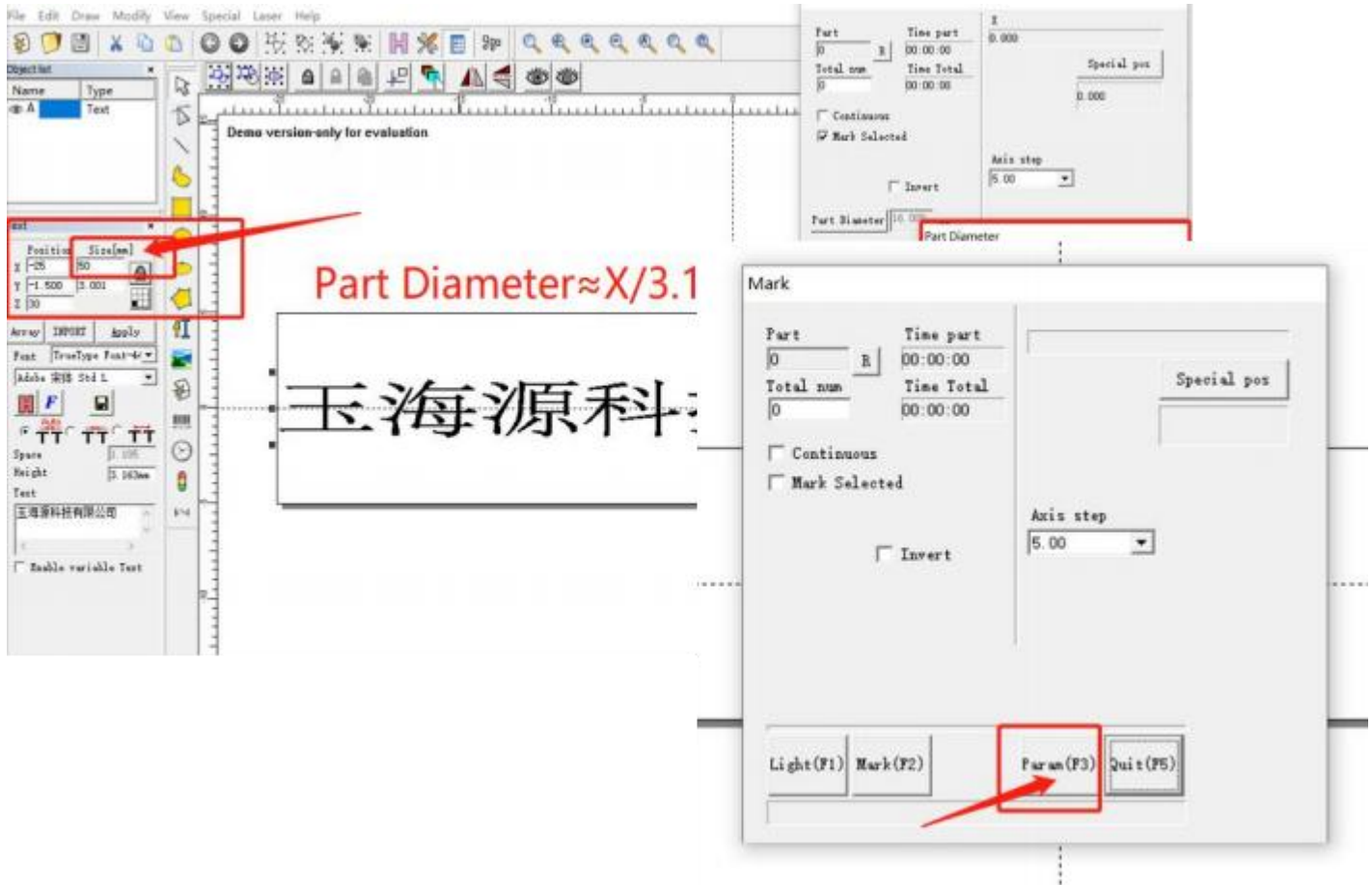


Step 4: Click OK, finish rotary axis parameter setting. Start Mark.

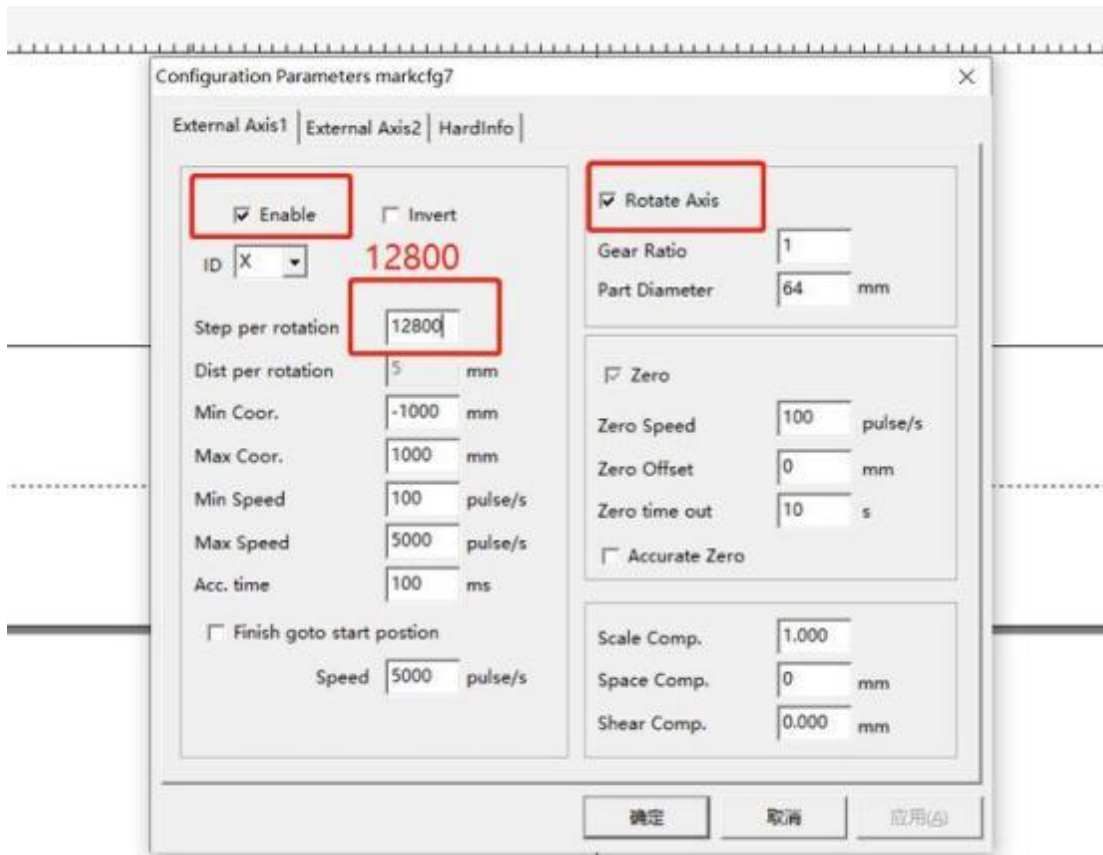


13.2 Marking Pictures

Step 1: Click Laser, choose "SpilitMark2"--Click "Param (F3)"

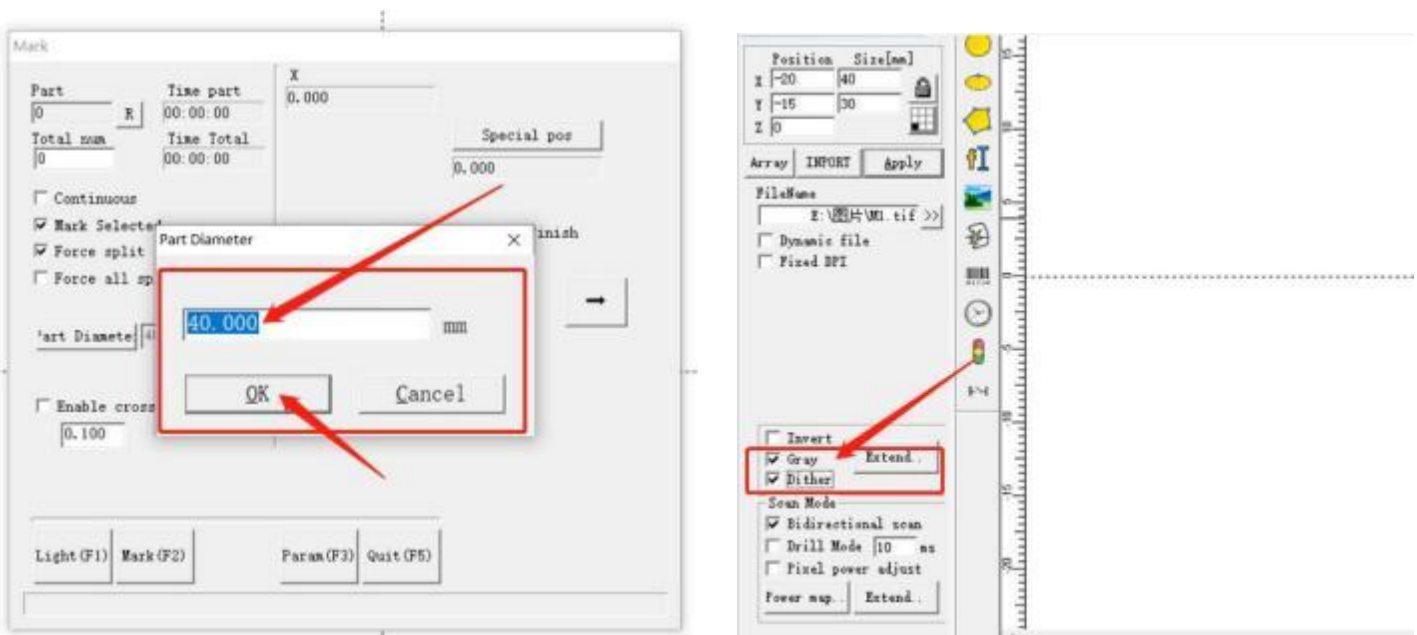


Step2: Check “☐enable” “☐Rotary Axis”, set up “Step per rotation to12800”, Click OK.



Step3: Find out the “Mark” button in the bottom left corner , Click “Part Diameter”, set up Part Diameter. (Diameter is the actual size of the material.)

Step4: Choose “Gray” and “Dither”





Choose "Gray" and "Dither" sample



Choose "Gray" sample

14.Q&A

Q: What should I do if the U-Disk is not found in the package?

A: This is because the customs took out the U disk during customs clearance.

Please contact customer service in time and leave your email. We will send you the U-Disk Files.

Q: If the computer prompts that file has a virus when I install the JCZ software, what should I do?

A: You must close all anti-virus software on your computer before installing the software.

Q: Why cannot install software (or shows display demo version)

A: Because the software installation driver is blocked by the computer's digital signature, you need to disable the computer digital signature, and then reinstall the software. If it still cannot be resolved, please contact us as soon as possible.

Q: Why didn't the laser come out of the new machine?

A: Please check your software drive is install successful; and then check the setting, Q pulse must be over 400nm/s

Q: When I install the Ezcad software, it shows "Ezcad-Lite work only with UsbLmc-Lite, use Ezcad!" What should I do?

A: This is because your computer version cannot match the software.
Please contact us if you encounter this problem.

Q: What should I do if the effect of my marking is too shallow?

A: You can choose continuous marking. If you're using 300x300mm field lens, please change to 110x110mm field lens.

Q: I bought a machine with a 300x300mm field lens, can I change other size field lens?

A: Yes. You can change other lens, please notices need to adjust the focal length and parameter.

15.Disable computer digital signature(WIN10)

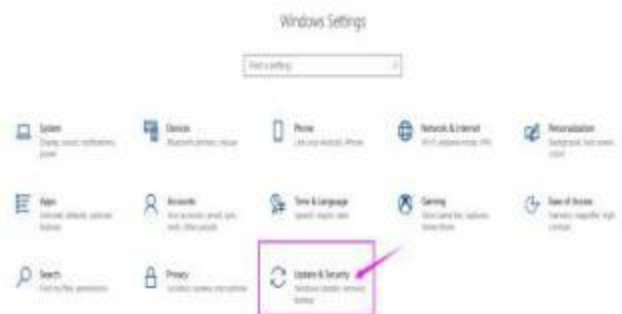
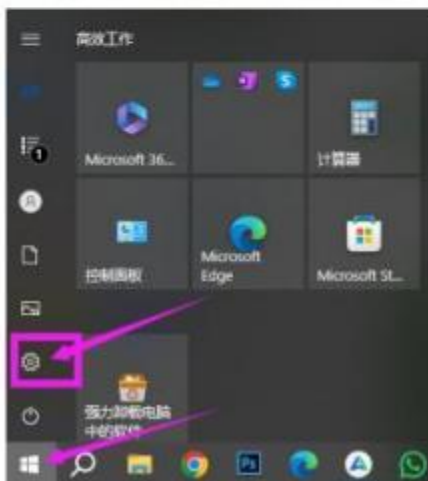
--Note that digital signatures need to be turned off only when the driver cannot be installed

How to disable the Digital signature on Win 10

(please closed the anti virus software at first)

Step1: 1.Open win10, click setting

Step 2. click update security |



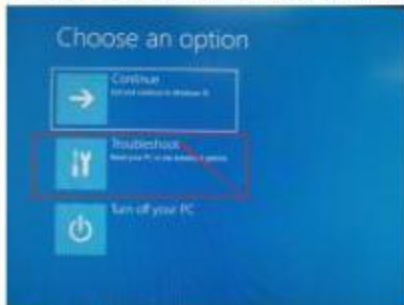
Step 3: Click Recovery

Step 4: Find out to Advanced startup--click Restart now



Step 5: choose Troubleshoot

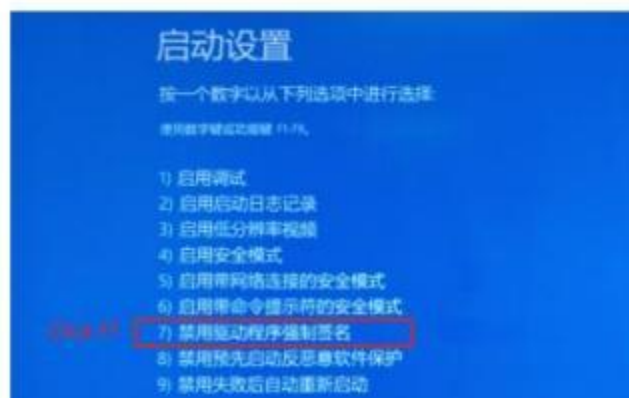
Step 6: click startup setting



Step 7: click Restart

Step 8 : Click F7 on your computer.

When all steps finished, you can start install the drive and software now.

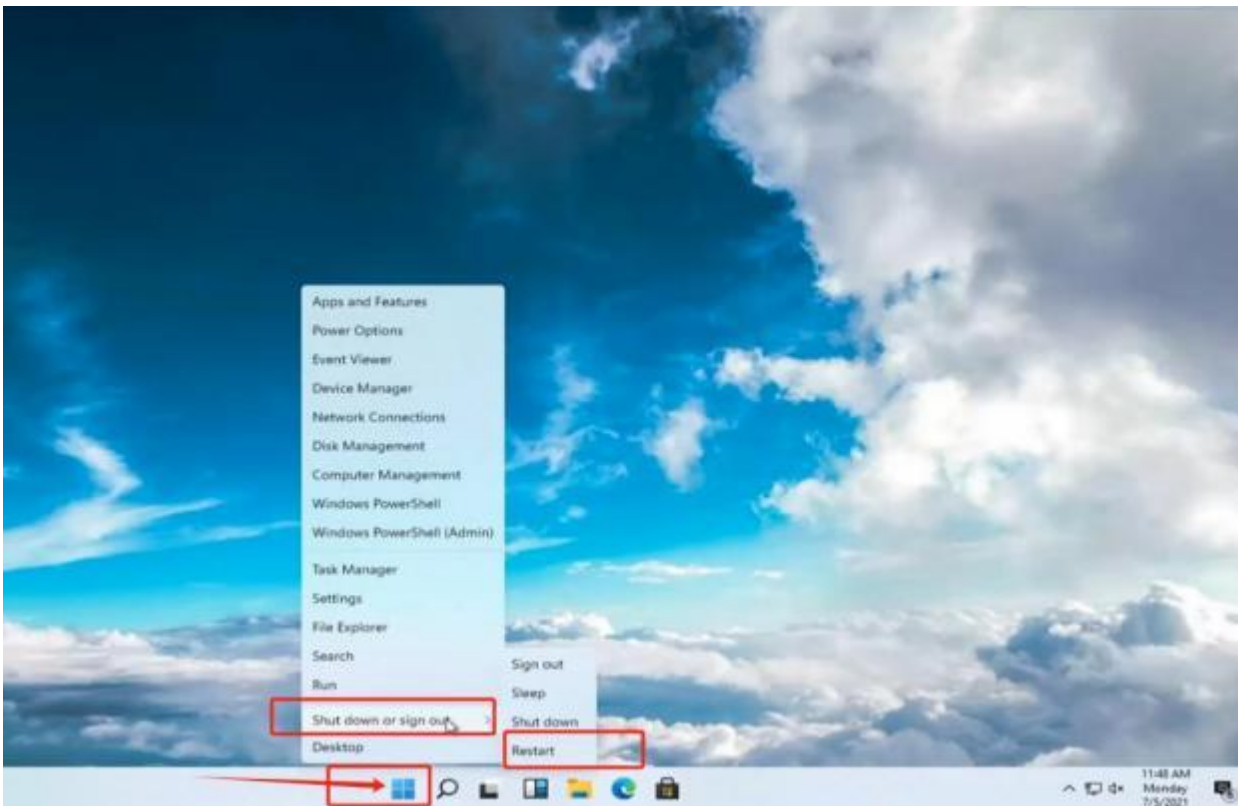


16.Disable computer digital signature(WIN11)

--Note that digital signatures need to be turned off only when the driver cannot be installed

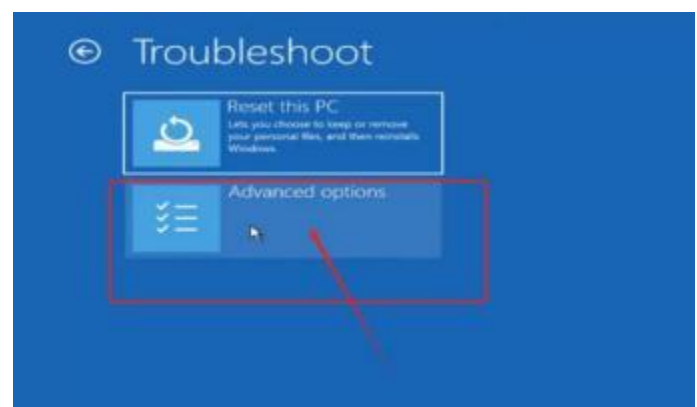
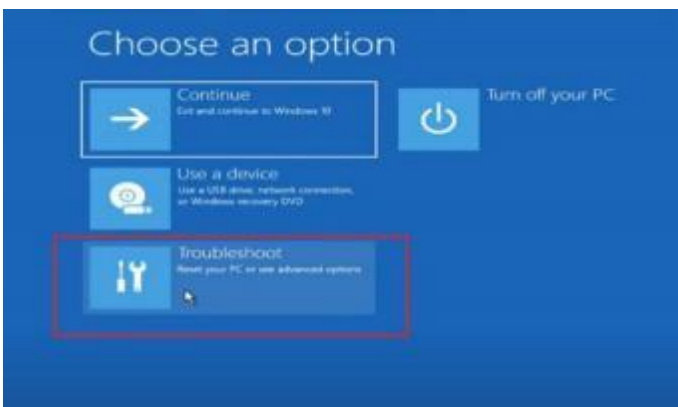
(please close the untivirus software at first)

Step1 : Open win11, choose shut down or sign out--click restart



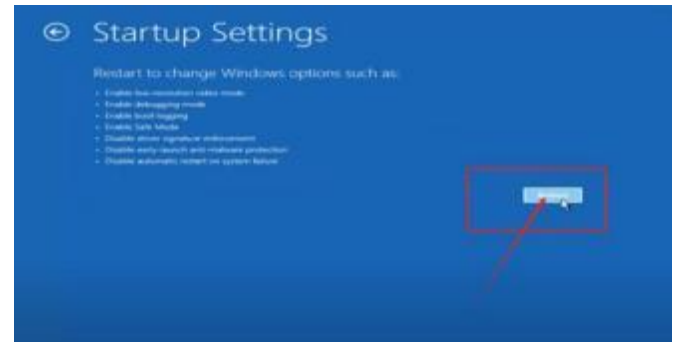
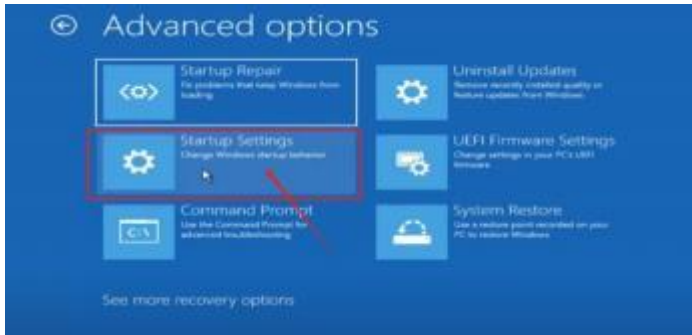
Step 2. choose Troubleshoot

Step 3 : Click Advanced options



Step 4 : click startup settings

Step 5: click Restart



Step 6: Click F7 on your computer.

When all steps finished, you can start install the drive and software now.

