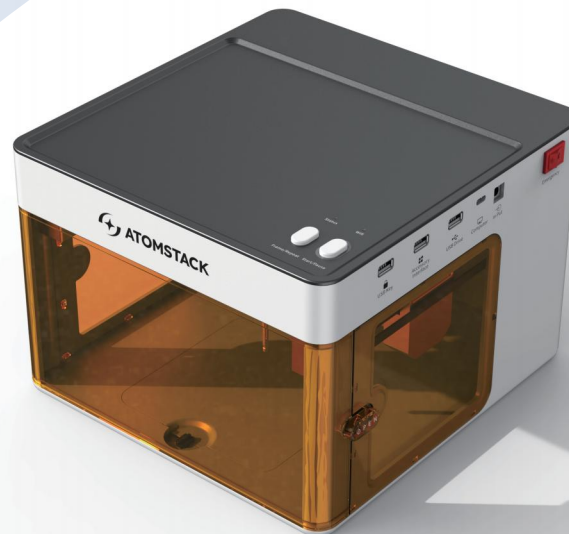




ATOMSTACK P1 User Manual

• English ◦ Deutsch ◦ Français ◦ Italiano
◦ Español ◦ 中文



F03-0283-0AA1 Version: A

Scan the QR code for
more information.

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Safety First

This guide pertains to laser cutting equipment certified under IEC/EN60825-1 Class 1 laser safety standards, ensuring operators can avoid potential hazards.

1. General Safety Rules

Pre-Use Inspection: Familiarize yourself with all safety precautions and operational procedures. Before each use, inspect for damage or malfunction. Cease use if issues are detected until repairs are complete.

Work Environment: Keep the workspace tidy, free from flammable or explosive materials. Place equipment on a stable surface to prevent accidents due to movement.

Equipment Integrity: Do not dismantle or modify equipment without authorization, especially the laser and operating systems. Maintain the original structure integrity certified under Class 1 safety standards.

Operational Monitoring: During the operation of the equipment, it must be monitored at all times to ensure it runs as expected. Do not leave the equipment unattended during operation to prevent potential accidents.

2. Laser Safety

Laser Safety Mechanisms: Certified as IEC/EN60825-1 Class 1, this equipment fully encloses the laser, complying with IEC/EN60825-1 Class 1 laser safety standards. Safety interlocks automatically shut down the laser when lid is opened, ensure no harm is caused to personnel.

Protective Measures: Additional laser safety eyewear is unnecessary as the laser remains enclosed.

Material Guidelines: Avoid cutting PVC, vinyl or other chlorine-containing materials, as these materials release harmful gases during the cutting process, which may impact the operator's health and damage the equipment.

Damage from reflection : Avoid using highly reflective materials. If reflective materials must be used, ensure their surfaces are treated with a black coating to reduce the damage to laser head.

3. Fire Safety

Fire Precautions: Avoid storing flammable materials or volatile solvents (such as alcohol, gasoline, etc.) around the equipment, ensure ventilation. Always have a fire extinguisher on hand when operating.

Fire Risks: Although laser cutting typically does not cause combustion, certain materials (such as acrylic) are prone to igniting under high temperatures. Always monitor the material cutting process closely, and take immediate action to extinguish any flames if they occur.

Cleaning: Regularly clean the residues and debris in the equipment to prevent an increased fire risk due to excessive accumulation.

4. Electrical Safety

Power Connection: Use the power adapter provided with the device, ensuring that the power outlet has a grounding wire. Never remove any panels or touch electronic components while the device is connected to power to avoid the risk of electric shock.

Power Switch: Located on the device's side, press (-) to turn on and (O) to turn off.

5. Disclaimer and Warnings

Disclaimer: Not a toy, and unsuitable for children under 15. Please do not allow children to touch the laser module. Exercise caution in children's presence.

Warning: The device contains a laser module; scan the QR code for the full manual and the latest instructions and warnings.

Before using the product, please be sure to read this document carefully to understand your rights, responsibilities, and safety instructions.

The user agrees to take responsibility for their actions and any consequences that may arise.

The user agrees to use the product only for legal purposes and agrees to comply with all terms and conditions of this document and any related policies and guidelines that Shenzhen AtomStack Technologies Co., Ltd. may establish.

Legal Responsibilities: You understand and agree that, unless you provide the original engraving or cutting files, parameters settings in the engraving software, operating system information, videos of the engraving or cutting process, and the steps taken before the malfunction or failure occurred, Shenzhen AtomStack Technologies Co., Ltd. may not be able to provide the cause of damage or accidents or offer after-sales service.

Shenzhen AtomStack Technologies Co., Ltd. is not responsible for any losses caused by the user's failure to follow the instructions in this manual.

The user is prohibited from disassembling the machine without guidance from company technicians.

Statement of Rights: Shenzhen AtomStack Technologies Co., Ltd. reserves the right of final interpretation of this document, in compliance with applicable laws.

Right to Update: Shenzhen AtomStack Technologies Co., Ltd. reserves the right to update terms without prior notice.

FCC statement:

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) This device may not cause harmful interference, and **(2)** This device must accept any interference received, including interference that may cause undesired operation.

Warning: Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- 1.Reorient or relocate the receiving antenna.
- 2.Increase the separation between the equipment and receiver.
- 3.Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- 4.Consult the dealer or an experienced radio/TV technician for help.

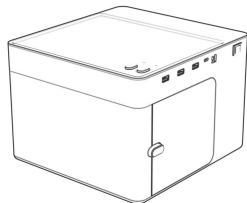
FCC radiation exposure statement:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

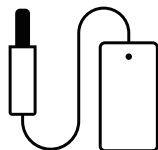
Adhering to these instructions helps ensure safe and effective use of the equipment.

02

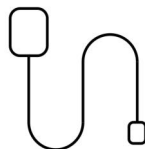
Packing List



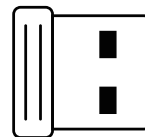
Main Body with Laser



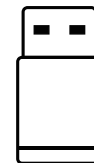
Power Adapter



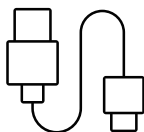
Power Cord



USB Startup Key



USB flash drive



USB cable to PC



Dust-Free Cloth



Magnet Blocks



Wood Pieces

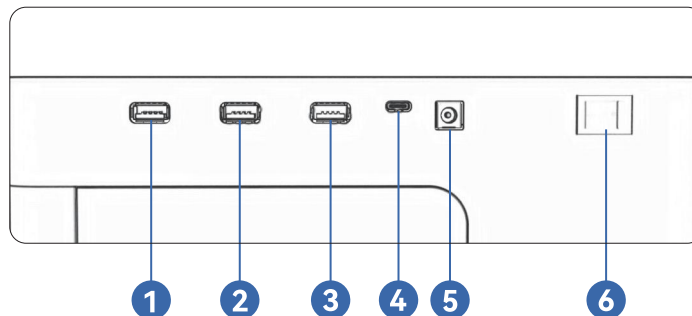
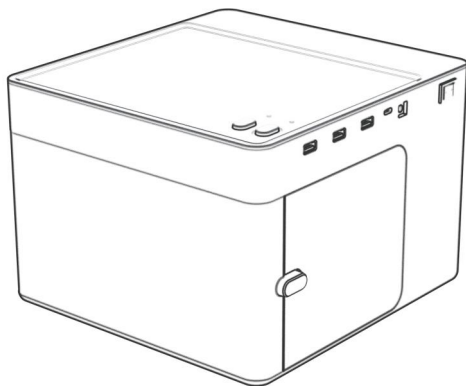


User Manual

03

Get to Know AtomStack P1

1.Port Introduction

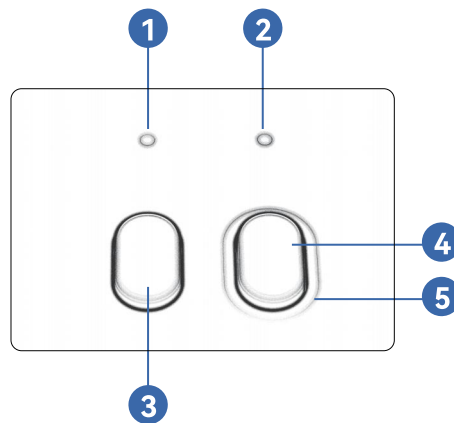
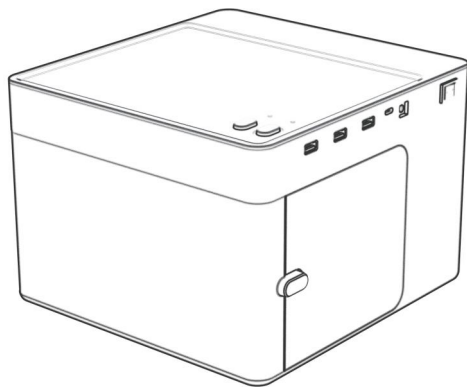


1 USB Key	Insert the USB startup key to allow to run the machine
2 Accessory Interface	Used to connect a chuck, a roller or other accessories
3 USB Drive	Used to insert a USB drive (A USB drive must be inserted for wireless use)
4 Computer	Used to connect to PC
5 In Put	Plug the power supply into the socket and turn on the power
6 Emergency	Power On/Off

03

Get to Know AtomStack P1

2.Indicator Introduction

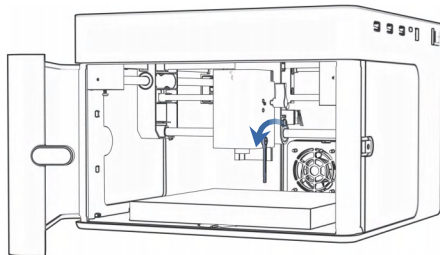


1 Status	Steady Green: Powered On、Flashing Green: Paused、Steady Red: Abnormal、Steady Blue: Laser is emitting
2 WiFi	Indicator off - Not connected to the network, Flashing White-in WiFi connecting process, Steady Green-connected to the network
3 Frame/Repeat	Press to start framing/Press again to stop framing, long press to repeat engraving
4 Start/Pause	Press to start engraving/Press again to stop engraving, long press to set up the network, double click to clear abnormality
5 Button Light	Indicator off-relugar mode, Steady Green-accessory mode

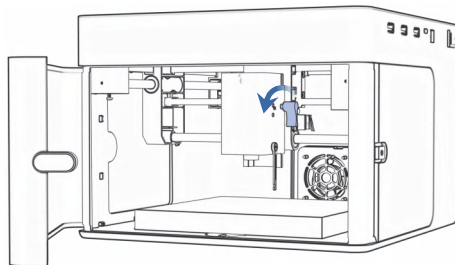
04

How to use

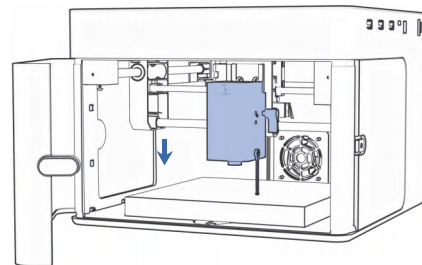
1.Laser Focus Method



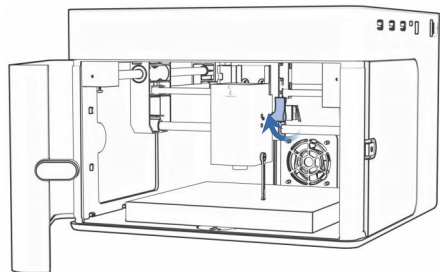
1.Rotate the focusing rod downward



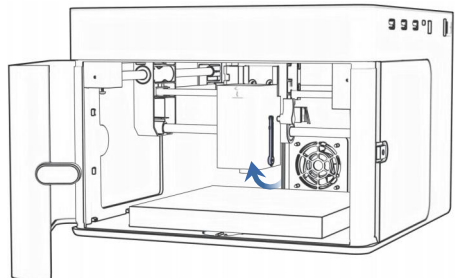
2.Turn the focusing rod down to release the laser module



3.Move the laser module downward until the focusing rod touches the surface of the engraving material



4.Fix the laser module



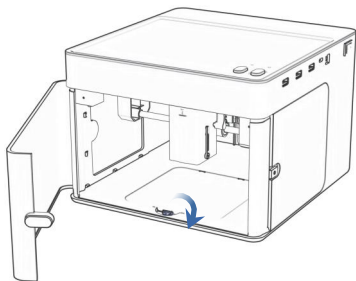
5.Rotate the focusing rod back to its original position

04

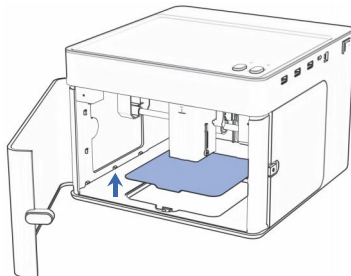
How to use

2. Laser Module Replacement

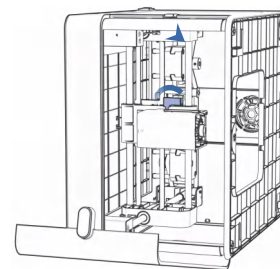
* Please handle the removal and installation of the laser module carefully to avoid forceful plugging or unplugging.



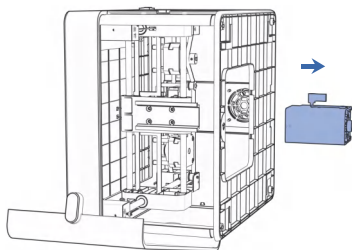
1. Ensure the power is off, open the front cover to loosen the bottom cover



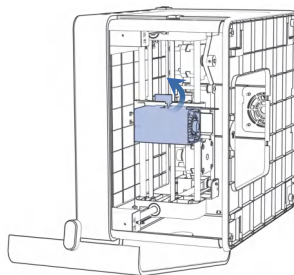
2. Remove the bottom cover



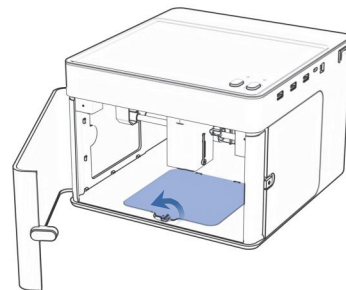
3. Lay the machine on its side and rotate the fixed-focus rod downward



4. Remove the laser module



5. Install the laser to be installed and tighten the thumb screws



6. Install the bottom cover to use

05

Software Resources

ATOMSTACK Control Software (Recommended)

Advantages: Easy device connection, simple operation, door detection, and a rich case library.



Mobile App Download Method:

1.AtomStack Studio download link:

<https://atomstack.com/pages/atomstack-studio-software>

2.Scan the QR code to download



iOS



Android

Computer Software Download Method:

AtomStack Studio download link:

<https://atomstack.com/pages/atomstack-studio-software>

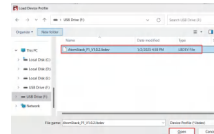


LightBurn Software Download Method: Download link: <https://lightburnsoftware.com/pages/download-trial>

LightBurn Software Connection (Baud rate must be set to 460800)

1.Open the LightBurn software,
select: Devices - Import

2.Select "AtomStack P1 Vxxx" from the USB drive - "Open" - "OK",
then click "Add Device" at the bottom right, and the machine will beep once to complete the connection.



1. What are the recommended engraving materials for P1 ?

455nm: wood chips, bamboo chips, leather, cloth, stone, ceramics, stainless steel, coated metals, bread, etc.
1064nm: ABS plastic, PC plastic, gold, silver, copper, aluminum, titanium, stainless steel, ceramics, etc.

2. Why is there no response when starting the machine ?

- 2.1. ****Check Adapter Power Supply****
Ensure the adapter is properly connected and receiving power.
- 2.2. ****Power Switch Position****
Verify that the power switch is flipped from the "O" (off) position to the "—" (on) position.
- 2.3. ****Connection Status****
Confirm the machine is connected to the controlling software.
- 2.4. ****Indicator Status****
Check if the indicator is steady green. Continue troubleshooting if the indicator is steady red
- 2.5. ****USB Startup Key****
Check if the USB startup key is inserted correctly. Insert the key if it is missing.
- 2.6. ****Enclosure Cover****
Ensure the cover is fully closed before starting the engraving process.
- 2.7. ****Limit Switch and Laser Position****
 - Inspect if the laser module is hitting the limit switches.
 - Move the laser module to the central area.
 - Close the enclosure cover and reset the machine before resuming engraving.

3. What is the working size for P1?

455nm:110*110mm 1064nm:105*100mm

4. Fail in engraving or no good results ?

Please make sure that the focus, speed, and power are properly set before engraving, and the imported image is clear and not too light color

5. Why is the pattern engraving incomplete or inconsistent in depth ?

Please make sure that the machine and the object are level before engraving

6. Fail in cutting ?

- 6.1 Ensure the correct focus distance between the laser module and the engraving material.
- 6.2 Confirm that the laser module is a 455nm laser and ensure the laser module lens is clean.
- 6.3 Check the material thickness; cutting is limited to materials $\leq 3\text{mm}$ thick, such as basswood, balsa wood, and other low-density woods.
- 6.4 Gradually increase the number of cutting passes and appropriately reduce the cutting speed.

7. Can I engrave on curved materials ?

Yes, but it is only suitable for materials with slight curves. Otherwise, significant differences in focus distance may result in no good. For specific curved surfaces like mugs or rings, you can purchase a rotary or a chuck accessory.

8. Fail in resetting ?

- 8.1 Check whether communication between the PC/APP and the machine is functioning correctly.
- 8.2 Inspect whether the X-axis and Y-axis limit switches are malfunctioning.
- 8.3 Verify if the X-axis and Y-axis can move normally.

9. Collision in engraving ?

- 1. Check if "Overscanning" is enabled in the software:
 - (1) Disable overscanning.
 - (2) Select "start from Current Position" and move the laser module to increase the distance from the limit switches.
 - (3) Reduce the engraving area.
- 2. Verify if the engraving area exceeds the range specified in the user manual.
- 3. Check if the engraving speed exceeds the limit specified in the user manual.

10. Can LaserGRBL software be used ?

No, it is not compatible. The P1 uses a baud rate of 460800, which LaserGRBL software cannot process in a timely manner.

1. Precautions

(1).Please clean the dust and debris inside the machine in time after each use.

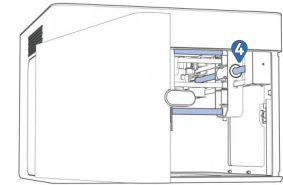
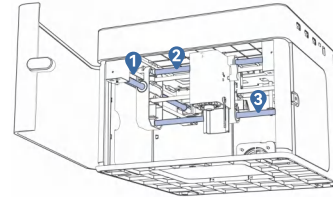
(2).The laser module is a consumable. Try to keep the temperature of the laser module below 35°C. After continuous engraving for 4 hours or cutting for 1 hour, turn off the power and cool it down for 10 minutes to help extend the life of the laser module.

a. Optical Shaft Cleaning

Recommended Cleaning Frequency: If the device is used for more than 4 hours a day, it is recommended to perform simple cleaning once a week.

Simple Cleaning Method: Use an alcohol cloth to wipe the optical axis with an alcohol wipe

Cleaning Tools: Dust-free cloth + alcohol



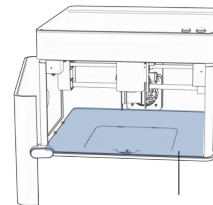
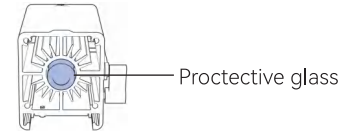
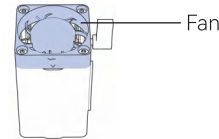
b.Laser cleaning

Recommended cleaning frequency: For 455nm lasers, if the use time exceeds 4 hours a day, it is recommended to clean it once a week.

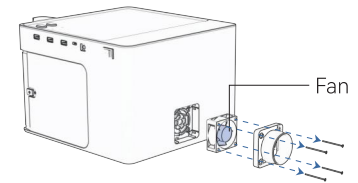
For 1064nm lasers: If the device is used for more than 2 hours a day, it is recommended to clean the device once a week.

Cleaning Areas: Heat dissipation fan and protective glass

Cleaning Tools: Dust-free cloth, alcohol, hexagon screwdriver and brush.



Bottom Cover



c.Bottom cover and fan cleaning

Recommended Cleaning Frequency: Clean once every month.

Cleaning Area: Bottom cover

Cleaning Tools: Dust-free cloth and alcohol

Customer service:

For detailed warranty policy, please visit our official website: www.atomstack.com
For technical support and service, please email: support@atomstack.com

Manufacturer:

Shenzhen AtomStack Technologies Co., Ltd.

Zip code: 518172**Address:**

17th Floor, Building 3A, Phase II, Intelligent Park, No. 76, Baohe Avenue, BaolongStreet, Longgang District, Shenzhen, Guangdong, China.

Scan QR code:

Scan with QR code reader/barcode scanner or any app with scanner

