Micro laser engraving machine Production Specifications

1 Comprehensive Introduction

1.1 Product Introduction

DBN Laser engraving machine is a desktop type small laser engraving machine. This device supports mobile power supply and adapter power supply, supports computer, mobile phone App control engraving. This device is powered by a 5V/2A adapter to achieve the best printing effect. When using the computer for printing, an outside adapter can be added to ensure the engraving effect

1.2 Function Introduction

1.2.1 Data Transmission

USB: support type-c USB cable to connect to the computer to transfer data;

Bluetooth: support dual-mode bluetooth connection to transfer printed data;

1.2.2 Engraving and Cutting Function

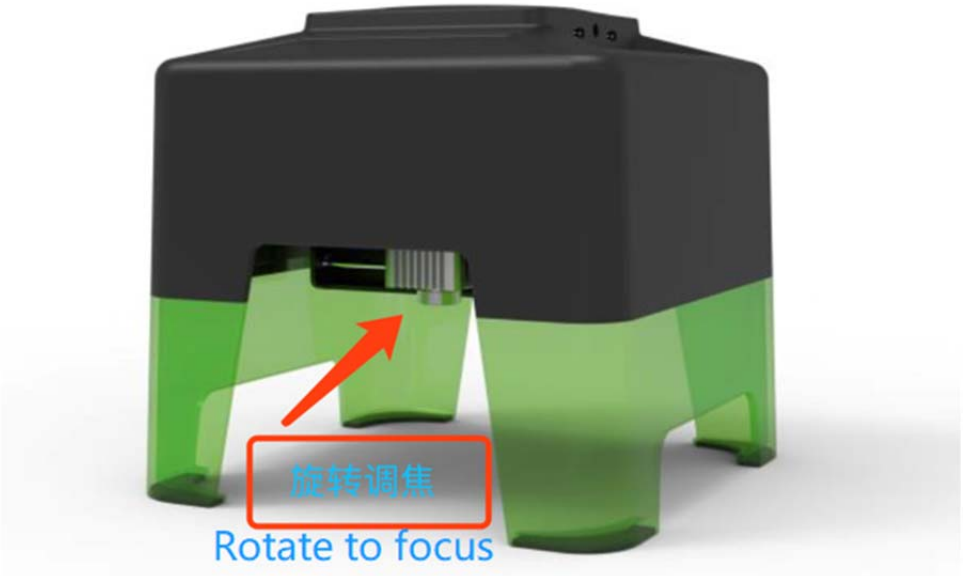
This machine adopts laser engraving method, which can engrave flat, opaque organic materials without adding flame-retardant materials, such as wood, ceramic, grey cardboard, bamboo, leather, metal with paint or oxide layer, etc. Can cut 1-3mm thick wood, cloth, plastic, etc.

The laser head adopts replaceable design. If the laser head is damaged, the user can replace it by himself.

1.2.3 the Laser Focusing

When using the product, if need to carve objects of different thickness, it is necessary to place the objects in the product working area to manually adjust the focal length for each. For the first operation, it is recommended to use the wood board or paper card attached to the product for engraving test before use.
The focusing methods are below:

Place the surface of the engraving object horizontally under the engraving machine and manually adjust the focusing head as shown in figure 1:



Observe the ray of light fall to the smallest point on the surface of the object. When the light is rotated to the smallest point, the focal length is adjusted. Note that the smaller the focus adjustment, the more delicate the effect of image tuning, if the focal length is not adjusted well, there may be no engraved image.

1.2.4 Power Supply

This model can be powered by USB and DC adapters.

USB power supply: USB adapter + type-c cable. To ensure good engraving effect, please use the original adapter and cable link.

DC adapter power supply (optional) : this model can be equipped with 12V DC adapter power supply, can be purchased according to your actual needs.

1.2.5 Indicator Light

(Indicator light location diagram)

Working state (blue highlight) : when cengraving, it is always on, when not engraving, it is off.

Power supply (red highlight) : always on after normal power on, flashing when in upgrade mode.

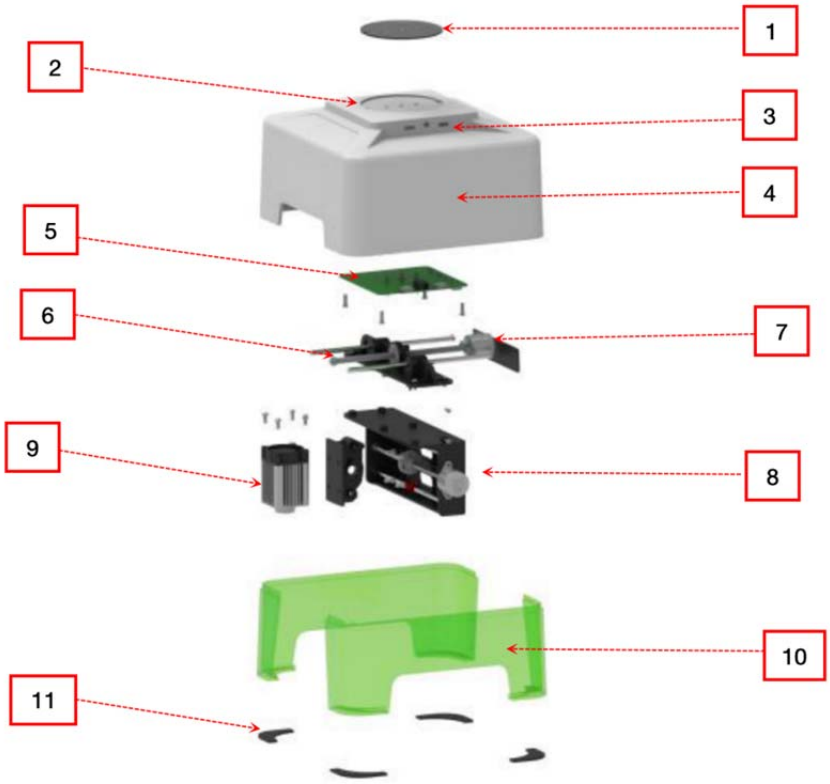
Connection status (green highlight) : bluetooth or USB connection is always on and off when disconnected

1.3 Operation Process

Computer control engraving: connect the power -- connect the computer -- open engraving software -- import the print picture -- adjust the focus -- send the picture -- click preview print -- confirm the position to be carved -- start preview and printing -- finish printing -- unplug the power cord;
Mobile phone control engraving: connect the power -- connect bluetooth -- import the printed picture -- import the printed picture -- adjust the focus -- send the picture -- click preview print -- confirm the position to be carved -- start preview and printing -- finish printing -- unplug the power cord;
(pictures and detailed steps for PC software and APP)

2 Hardware Introduction

2.1 Hardware Structure



① indicator light panel ②indicator light ③external interface ④shell ⑤main control circuit board ⑥Y axis screw rod ⑦motor ⑧X axis screw rod⑨laser tube ⑩Eye protector stents ⑪rubber foot

2.2 Interface Illustration

	Interface Name	Interface Illustration
1	USB1	Power the engraving machine, 5V/2A
2	DC Interface	12V/2A Power the engraving machine, 12V/2A
3	USB2	For data synchronization, can be connected to the computer

2.3 Performance Parameter

Machine Name	Laser Engaving Machine
Engraving Area	100*90mm
Engraving Mode	Bitmap Engraving
Software Support Language	China, Britain, Germany, Italy, France and Japan
Image Format	JPG，BMP（24bit），TIFF，PNG（under 32bit），PCX（8bit and 24bit），PCD
Image Accuracy	515dpi
OS Support	Win、Android、ios
Laser Head Power	1.6W
Machine Power	5V/2A power supply：9.5W 12V/2A power supply：12W
Whether the laser is replaceable	Yes
Laser operating temperature	-5～60℃；
Indicator Light	power: red working: green connecting: blue
Running Hour	work more than 8000 hours continuously
Interface	DC power supply block (optional 12V/2A adapter); USB1 (type-c interface) : power supply + data synchronization; USB2 (type-c interface) : power supply;

Material can be engraved	Organic materials that are flat, opaque and do not add flame retardant materials such as wood, plastic, grey cardboard, bamboo, leather, etc
Material can’ t be engraved	Cannot be burned, e.g. metal (without spray paint), flame retardant transparent plastic, etc
Machine compositions	Fiber, stainless steel, aluminum
Certifications	CE,FCC,FDA registration
Dimension	Composed appearance size：182*182*165mm
	Packing size：210*210*150
Machine Weight	750g
	Weight including package： to be confirmed

3 App Introduction

3.1 will supplement soon

4 Packing List

SN	Machine Name	Quantity	Remarks
1	Laser Engraving Machine	1	
2	(Type-C) Cable link	1	To ensure the print effect, please choose the original cable link
3	12V 2A DC power	1	Can add USB adaptor：5V/2A
4	Illustration book	1	
5	Guarantee Card	1	
6	Certification of Quality	1	
7	Wood	1	Used for test
8	Cross Screwdriver	1	Used for change laser tube
9	EVA sheet, color paper card, cardboard, non-woven fabric		

5 App

1. The name of the APP is BlueLaser. IOS APP can be downloaded from the APP store. The APP store which Android support are: Google store, or two-dimensional code scan download.

6 Attention

1. This equipment adopts high power laser as the heat emission source. Please do not look directly at the laser head with your eyes, which may cause blindness and other risks.
2. Children under 12 years old are not allowed to operate. If necessary, please operate under the guidance of an adult.

FCC Statement

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:
-Reorient or relocate the receiving antenna.
-Increase the separation between the equipment and receiver.
-Connect the equipment into an outlet on a circuit different from that to which the
receiver is connected.
-Consult the dealer or an experienced radio/TV technician for help.
To assure continued compliance, any changes or modifications not expressly approved by the party.
Responsible for compliance could void the user’s authority to operate this equipment. (Example- use only shielded interface cables when connecting to computer or peripheral devices).
This equipment 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. RF warning statement:

The device has been evaluated to meet general RF exposure requirement.
The device can be used in portable exposure condition without restriction.