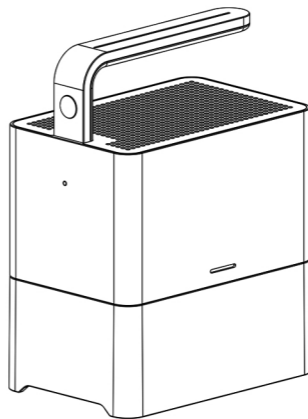


Z4 User's Manual



Z4 Engraving Machine User's Manual
Please read this manual carefully before use

Safety Instructions

Thank you for purchasing our company's laser engraving machine, which is a high-tech product integrating light, machine and electricity. In order for you to better use and maintain the equipment, please read the instructions carefully and follow the steps in the instructions.

Hereby Certify!

All losses caused by improper use or failure to follow the steps in the manual shall be borne by the individual. The final interpretation right of the manual belongs to our company, and it has the right to modify all the materials, data, technical details, etc. in this manual.

Safety Instruction

Before using the equipment, the user must read this operating manual carefully and strictly abide by the operating procedures. Laser processing may be risky, users should carefully consider whether the processed object is suitable for laser processing. Processing objects and emissions should comply with local laws and regulations.

*This equipment uses four types of lasers (strong laser radiation), which may cause the following conditions:

- ① It will ignite the surrounding combustibles;
- ② In the laser processing process, other radiation and toxic and harmful gases may be generated due to different processing objects;
- ③ The direct exposure of laser radiation can cause human injuries. The place of use must be equipped with fire-fighting equipment. It is forbidden to stack flammable and explosive materials on the workbench and around the equipment. At the same time, it is necessary to maintain good ventilation.

*The environment where the equipment is located should be dry, free of pollution, vibration, strong electricity, strong magnetism, etc. Working environment temperature 0~30°C, working environment humidity 30-65% (non-condensing water)

★The working voltage of the equipment: AC100-240V.

*Only when the engraving machine and other related equipment have a safety grounding wire can it be turned on and operated.

★When the equipment is turned on, it needs to be on duty throughout the whole process. The operator must cut off all power before leaving to prevent abnormal conditions. If any, please cut off the power immediately!

*It is strictly forbidden to place any irrelevant total reflection or diffuse reflection objects in the equipment to prevent the laser from being reflected on the human body or flammable objects.

Safety Instructions

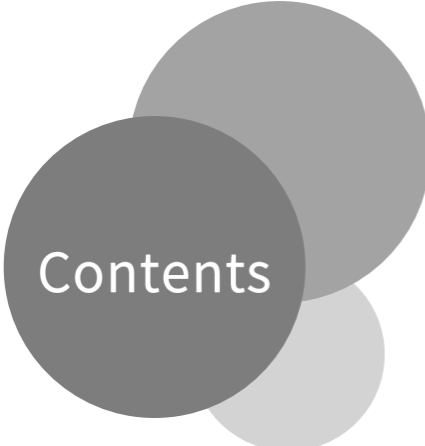
- *The equipment should be far away from electrical equipment sensitive to electromagnetic interference, which may cause electromagnetic interference.
- *There are high voltages or other potential dangers inside the laser equipment. Non-professionals are strictly forbidden to disassemble it.

Pay attention to



1. After the laser is turned on, it is forbidden to aim at people, animals and flammable materials to avoid skin burns and fire
2. The brightness of the laser is harmful to the eyes, please try not to look directly at the laser
3. Keep your hands away from the machine when the machine is working to avoid injury
4. Turn off the machine switch when the machine is not in use to avoid third-party operations

Z4 Marking Machine Instruction

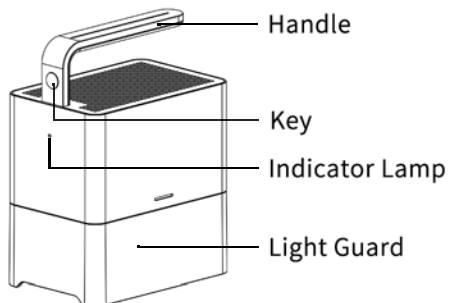


Contents

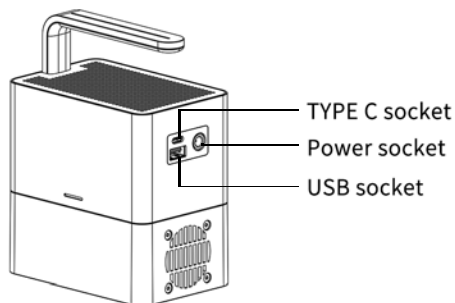
01	Product Structure Accessories	- - - - -	01
02	Product Parameter	- - - - -	03
03	Introduction of the Features	- - - - -	04
04	Installation of Driver and Software on PC	- - - - -	06
05	Driver Installation on PC and Online Operation	- - - - -	07
06	Introduction to Software Application on PC	- - - - -	10
07	Software Download and Online on Mobile Devices	- - - - -	15
08	Introduction to Software Application on Mobile Devices	- - - - -	16
09	FAQ	- - - - -	21

01 Product Structure Accessories

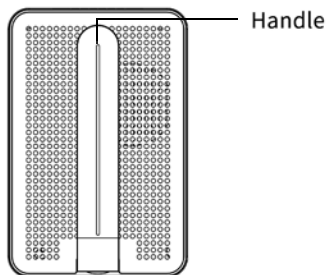
Front View



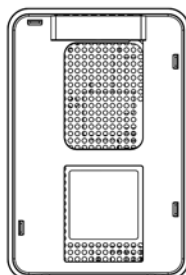
Back view



Top view



Bottom view



01 Product Structure Accessories

【Standard accessories】



power *1



USB flash disk *1



type C data cable *1



marker *1

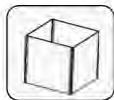


brush *1



kraftpaper *4

【Optional accessories】



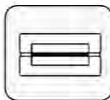
magnetic acrylic folding protection plate



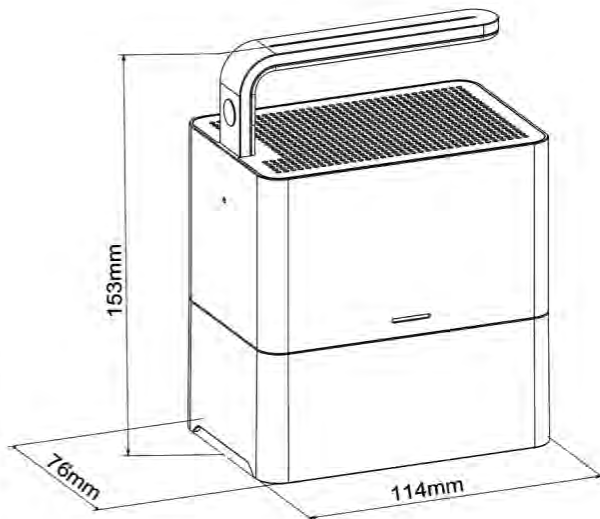
manual lift frame



mobile power



mini roller



02 Product Parameter

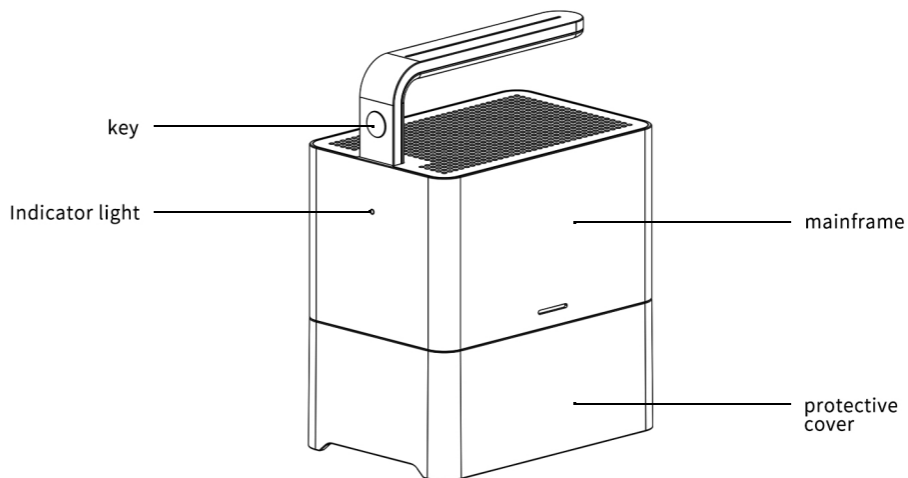
Model	Z4
Laser Focusing	With magnetic base: no need to focus, always ready to engrave, with manual lift frame: focus pin assisted focus
Material appearance	High strength aluminum, anodized, space gray
Communication	Dual-mode Bluetooth 5.0 wireless connection, supporting IOS and Android mobile apps; USB-TypeC wired connection, supporting MAC and Windows desktop apps.
Power input	12v/5A DC power supply or mobile power
Power consumption	Standby state <1.5A; carving state <4A
Heat dissipation method	Air-cooled
Laser life	>10000h
Engraving area	5cm * 5cm
Engraving accuracy	0.05mm
Engraving speed	Maximum speed up to 600mm/s. Note: Speed is related to material and engraving depth.
Engraveable material	Wooden material, bamboo material, acrylic, leather, paper, fabric, wool, corrugated paper, food, fruit, plastic, bone, glass, shale/brick/cement, ceramic
Cuttable materials	Cardboard, wood, bamboo, leather, acrylic, fabric
Support System	Win7/Win8/Win10/IOS/MAC/Android
Image format	JPEG/BMP/GIF/PNG/JPG/XJ/PLT/DXF/HPGL
Body size	Length, width and height: 11.4cm * 7.6cm * 15.3cm
Package size	37.5cm * 22cm * 16.5cm
Operating temperature	0°C - 30°C

03 Introduction of the Features

1.Machine functions.

[Button function].

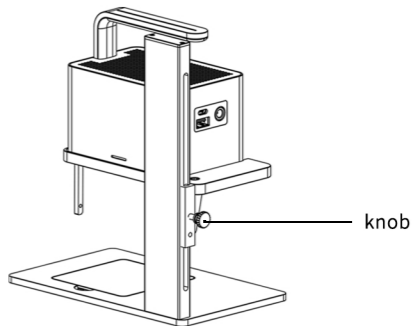
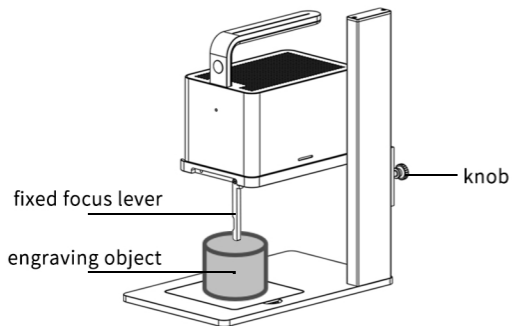
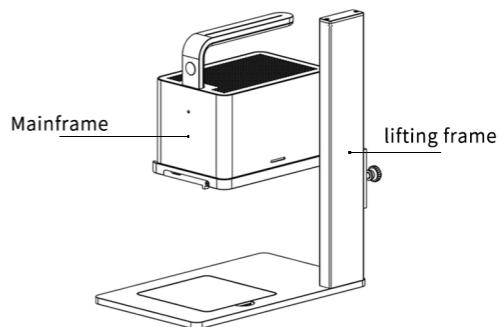
Short press to "preview", then short press to stop "preview";
long press to "engrave", then long press to cancel "engrave".



03 Introduction of the Features

【Optional lifting frame】

1. Set the mainframe on the lifting frame.
2. Put down the fixed focus lever, adjust the knob so that the fixed focus lever touches the engraving object, fix the knob, and put away the fixed focus lever.



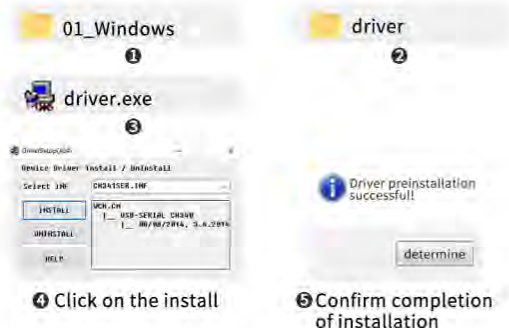
04 Installation of Driver and Software on PC

Driver and software acquisition method:

Method 1: Insert the accessory U disk into the computer, the U disk has been added with drivers, application software, pictures and other data (Note: When using it for the first time, please copy all the data on the U disk to your computer for backup to prevent loss due to improper operation)

Method 2: Visit the official website to download the Windows/ MAC version driver application Software:<http://www.dkjxz.com>

Windows driver software installation



1.Driver installation path:

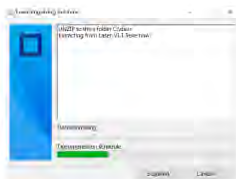
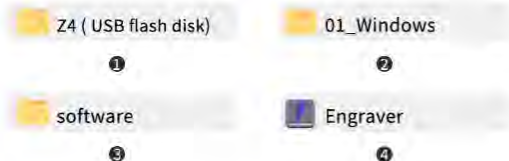
Double-click the U disk folder/01_Windows/driver/driver.exe/ click to install/Driver installation is successful, for detailed steps, please watch the U disk related installation demonstration video

 Installation video of driver and software on Windows

05 Driver Installation on PC and Online Operation

2.Path to Install Software:

Enter the USB flash disk and double click the folder:/windows/software/Engraver/ After the progress bar has done,the installation is completed /Laser.



⑤ After the progress bar has done, Laser installation is completed.

Tips:

After clicking Engraver, if anti-virus software or PC Manager prompts to warn the risks. Engraverfile is a win system installation package. If it is misjudged as a suspicious file, Please select “allow all operations” to complete the software installation.

3.Online Operation:

Connect the machine to the computer with data cable
Double click the software icon — click the “connect device” icon — the icon turns blue to complete the online connection



① Double click the software icon



② Click the “connect device” icon



③ The icon turns blue to complete the online connection



05 Driver Installation on PC and Online Operation

Mac Driver Installation

01 Z4(USB flash disk)

①

driver

③



④ Click to continue



⑥ Click to continue the installation



⑧ Complete the installation

02-MAC

②

Mac_OSX_VCP_Driver

④



⑤ Enter the computer password



⑦ Continue the installation

1.Path to Install Driver:

Path to Install Driver: Enter the USB flash disk and double click the folder: 02_MAC/driver/Mac_OSX_VCP_Driver/Installation introduction/installation type/installation/installation completed

Note: The software can be installed after the driver has been installed, please watch the video for detailed operation.



Video of MAC driver and software installation

05 Driver Installation on PC and Online Operation

Mac software installation and online Introduction

Z4(USB flash disk)

①

02-MAC

②

software

③



④ Double click the software icon



⑤ Left click the icon and drag into the Applications folder in the right



⑥ Complete installation

2. Path to Install Software:

Enter USB flash disk and double click the folder: 02_MAC /software/Engraver/move software icon to the right/ complete installation

3. Online operation:

Connect the machine to the computer through data cable
Double click the software icon — click “connect device” icon — the icon turns blue to complete the online connection



① Double click the software icon



② Click “connect device” icon

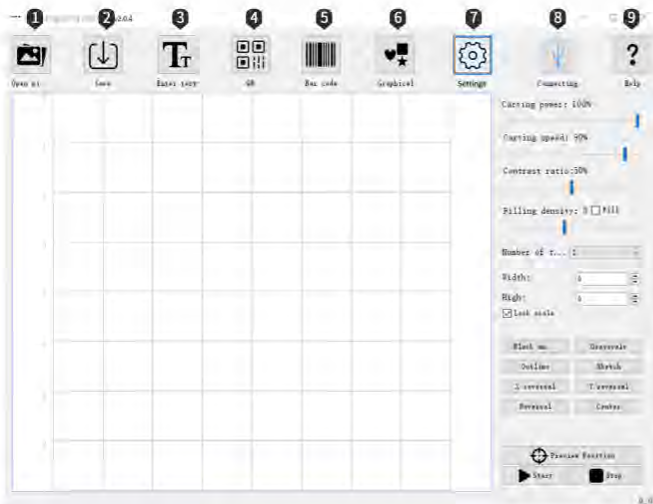


③ The icon turns blue to complete the online connection



06 Introduction to Software Application on PC

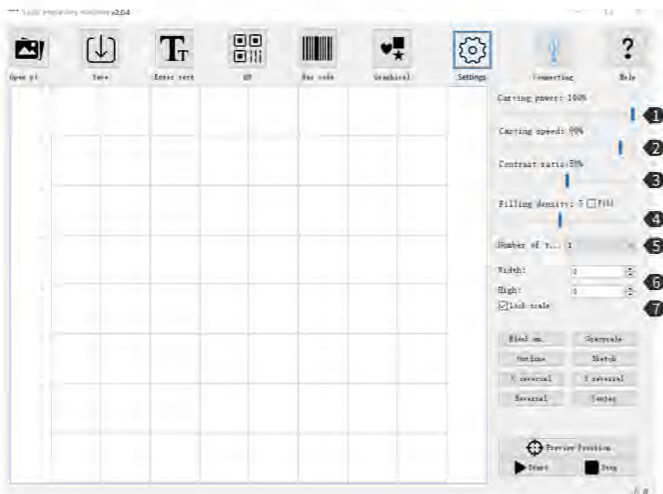
Introduction to Icon Functions in Software Interface:



- 1 Open**
Load photos from computer
- 2 Save**
Save the edited texts and photos
- 3 Input Text**
Import text, font, size, horizontal, vertical, vectorization Editing function
- 4 QR code**
Create QR code
- 5 Bar Code**
Create Bar code
- 6 Graphics**
Round-square-heart-pentagon, quick creation
- 7 Settings**
Set the parameters of low light power; set whether to activate the roller
- 8 Connect to device**
The icon turns blue after the connection is done
- 9 Help**
Open the link; watch the demo video and refer to the FAQ

06 Introduction to Software Application on PC

Setting of Software Parameters:



1 Engraving Power

Adjust the power level to engrave different materials

2 Engraving Speed

Set the engraving speed, the engraving speed of determines the engraving depth

3 Contrast

Drag the slider to adjust the contrast of text and photo

ABCD ABCD ABCD
Contrast 16 Contrast 50 Contrast 80

4 Filling Density; Filling

The filling effect can only be effective for vector graphics, select vectorization, Click Fill on the text photo, drag the fill slider to adjust the filling density

5 Engraving Times

Set the number of engraving times

6 Width; Height

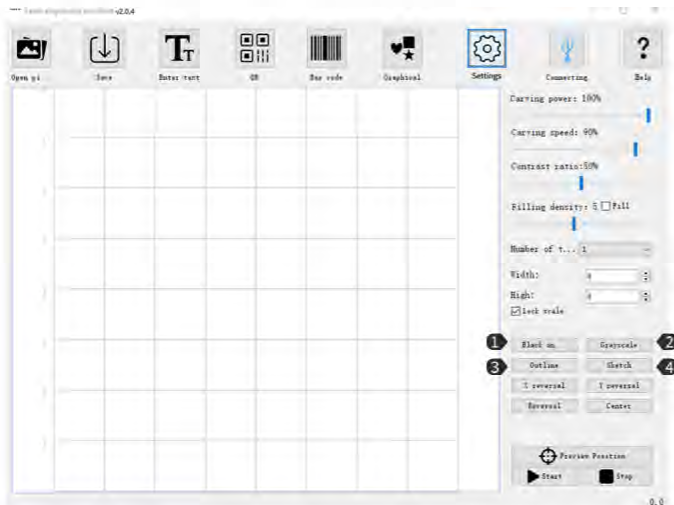
Adjust the width and height of text photo separately will

7 Proportional Zoom

Lock photo text to proportionally zoom in/out

06 Introduction to Software Application on PC

Setting of Software Parameters:



1 Black and White

To process photos to black and white

2 Grayscale

Grayscale mode, adopt the function for engraving photos to adjust photo grayscale

3 Contour

Cutting mode for wireframe cutting of engraving machine

4 Sketch

Sketch mode, enhance the 3D effect of photo outline



Black and White



Grayscale



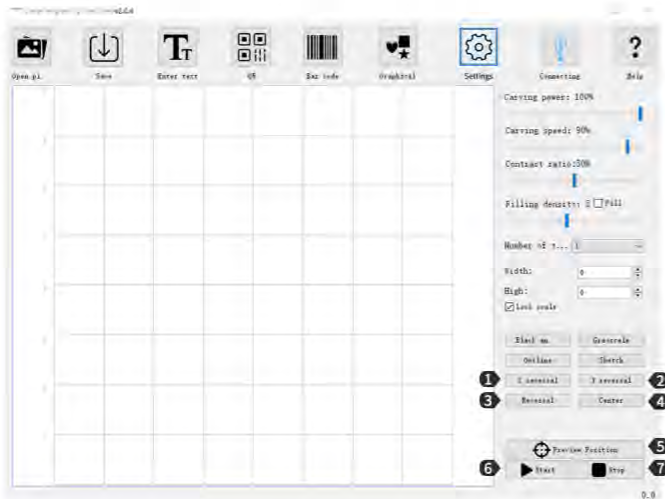
Contour



Sketch

06 Introduction to Software Application on PC

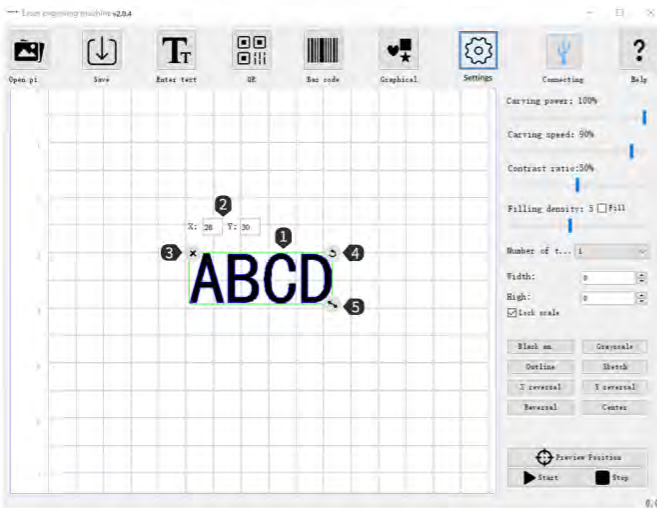
Setting of Software Parameters:



- ① **X Mirror**
Horizontal Rotation Effect
- ② **Y Mirror**
Vertical Rotation Effect
- ③ **Reverse Color**
Reverse background color of text and photo
- ④ **Center**
One click to center the text and photo in preview area
- ⑤ **Preview Location**
Preview to confirm engraving position
- ⑥ **Start**
Start engraving
- ⑦ **Stop**
Stop engraving

06 Introduction to Software Application on PC

Introduction to Interface Loading Content:



- 1 After loading the text and photo, left click the mouse to move the position of the text and photo, right click the mouse to move the drawing board horizontally, roll mouse wheel to zoom in/out the drawing board.
- 2 X:26 Y:30 only indicate the position coordinates where the text and photo stay; when move the text and photo, the coordinates will change based on different positions.
- 3 ✕ Clear the text and photo on the drawing board
- 4 ↻ Left click the mouse to rotate the text and photo 360°
- 5 🔍 Left click the mouse and drag to zoom in/out the text and photo

07 Software Download and Online on Mobile Devices

1. Software Download and Installation:

Method 1: APP download URL:
www.dkjxz.com

Method 2: Scan the QR code to download.



Google Play



Android



iOS

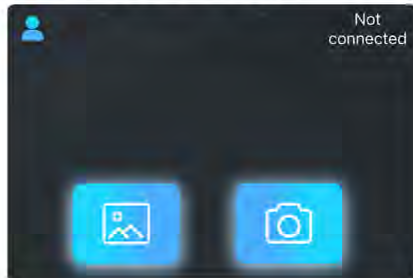
URL to Obtain Information:

User Manual Download URL:
www.dkjxz.com

Note: 1. For Android system, open the browser to scan the QR code to download;
2. Corresponding authority should be permitted after successful installation;

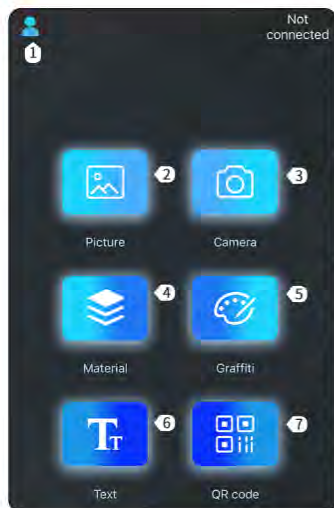
2. Connect APP with Machine

- 1 Connect the machine to power supply;
- 2 Activate Bluetooth function in the mobile phone;
- 3 Open engraving software in the phone, click "No Connection" in the upper right corner to automatically search for the device;
- 4 Then click "Engraver-#####";
Note: "#####" represents the serial number of the machine.
- 5 Wait for 1~2 seconds till "Connected" displayed in the upper right corner, which indicates that the APP has successfully connected to the machine, then continue with the next step.



08 Introduction to Software Application on Mobile Devices

Introduction to Software Interface (Load Content):



- 1 Settings**
New User Guide/Feedback/User Agreement and Privacy Clauses/Equipment/Language Setting
- 2 Load Photos for Engraving**
Add photos from Album, Add photos from Gallery
- 3 Take photos via camera**
- 4 Software Built-in Graphics**
- 5 Add Graffiti**
Self-draw Text/Photo
- 6 Edit Text**
- 7 Add QR code**
QR Code, Barcode

Roller Settings



- 1 Standby laser power**
Set the laser power in standby
- 2 Roller mode**
Activate/inactive the roller mode. When it is activated, it can rotate 360° to engrave

08 Introduction to Software Application on Mobile Devices

Introduction to Software Interface (Load Content):



① Cutting

- Customized Cutting
- Round Cutting
- Square Cutting

② Photo or Text

(Content can be overlapped)



Input Text



Load Photos
from Album



Shoot via
Camera



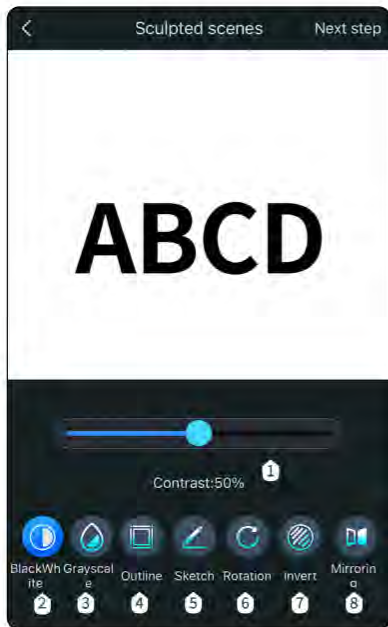
Add Photo from
Material Library

③ Eraser

Modify the photo with erase

08 Introduction to Software Application on Mobile Devices

Introduction to software interface (Loading content) :



① Contrast

Drag the slider to adjust the contrast of text and photo

ABCD ABCD ABCD
Contrast 16 Contrast 50 Contrast 80

② Black and White

To process photos to black and white

③ Grayscale

Grayscale mode, adopt the function for engraving photos to adjust photo grayscale

④ Contour

Cutting mode for wireframe cutting of engraving machine

⑤ Sketch

Sketch mode, enhance the 3D effect of photo outline



⑥ Whirling

Can rotate 90 degrees, 180 degrees or 360 degrees

⑦ Reverse Color

Reverse background color of text and photo

⑧ Mirroring

Horizontal Rotation Effect, Vertical Rotation Effect

08 Introduction to Software Application on Mobile Devices

Introduction to Software Interface (Load Content):



- ① Width
Set engraving width
- ② Height
Set engraving height
- ③ Lock Ratio
Scale engraving size proportionally
- ④ Region
Positioning
Preview Engraving Position
Determine Engraving Position



① Material Selection

App built-in materials, which can be directly selected based on the materials to be engraved

② Add Materials

Add and set materials, material name/laser power/engraving speed

③ Delete material

④ Laser Power

Adjust power level to engrave different materials

⑤ Engraving Speed

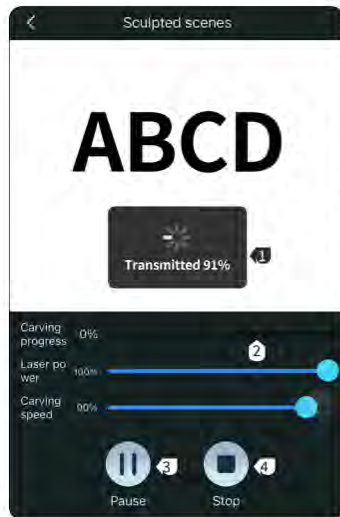
Engraving speed setting, engraving speed determines the engraving depth

⑥ Repetition Times

It represents the number of engraving times

08 Introduction to Software Application on Mobile Devices

Introduction to Software Interface (Load Content):



1 Uploading content

When the transfer progress has been 100% completed, the engraving can be started.

2 Carves Progress

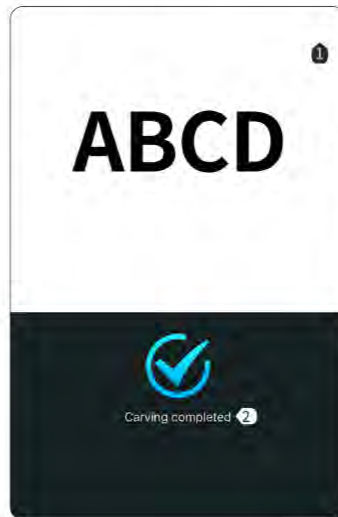
Show me the progress of the sculpture

3 Suspend

Suspend engraving

3 Stop

Stop engraving



1 Save

Save the current engraving content and view in the phone album

2 Engraving Completed

Current content has been engraved

09 FAQ

Z4 FAQ

One、No response when the machine is powered on

1. No power: check sockets, switches, and body power sockets to ensure that they are plugged in and are normally powered on;

Two、Can't connect to computer (PC)

1. The TYPE C cable is not connected: check the computer end of the TYPE C data cable and the machine interface to ensure that it is plugged in place. The TYPE C interface on the front panel of some desktop computers is invalid and needs to be connected to the socket on the back of the fuselage.
2. The driver is not installed normally: Complete the driver installation according to the operating instructions. After the installation is complete, the computer recognizes the device as a serial port, indicating that the hardware connection is OK.
3. Other special circumstances: Pull out the USB data cable and power supply, and reconnect the device after 5S after the device is completely powered off.

Three、No response from the mobile phone APP connected to the machine

1. Wrong Bluetooth connection: make sure the Bluetooth released by the machine is connected. For details, read the App connection part of the manual.
2. Compatibility failure: After the newly-listed mobile phone or the upgraded system, if there is an abnormal connection due to compatibility issues, you can contact our customer service and send back the screenshot of the mobile phone configuration to get fast technical support.

Four、Engraving effect is very shallow or no trace

1. Inaccurate focus: Read the focus part of the manual to focus accurately.
2. Engraving speed: too fast or too short burning time. Read the engraving parameter section of the manual to readjust the parameters.
3. The picture is too light: the imported picture should be clear, the lines are too thin, and the color is too light will directly affect the engraving effect.
4. Placement of engraved objects: the engraved object is placed obliquely, and the focal length of the laser is fixed, so the engraved object should be placed flat and parallel to the body. Otherwise, the focal length will be inaccurate, resulting in abnormal engraving effects.

Five、Abnormal stop during offline engraving

1. The picture download is incomplete when connected to the computer, just download it again.

FCC Warning:

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

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

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.

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:

- 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.

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment.