

# Software Installation Manual

Support : VigoEngraver

Powered by VigoTec

## 1 . Introduction

VigoEngraver is an engraving machine control software developed by VigoTec. This is designed specifically for VG-L7. It supports text editing , image import , gcode file and dxf file(At present, only supported line, arc, circle and polyline, complicated graphs such as spline are not supported yet. User can fit with polyline). It supports the outline engraving, point engraving, Black-White and gray mode engraving. And it supports the adjustable of engraving rate, laser intensity, engraving time per point in the process of engraving.

Supported desktop operating system: Support Win7 and above. (MacOS, XP and earlier systems are not supported yet.)

## 2. Install driver



For the first time, please connect the device to the computer by USB cable, and click CH341SER.exe to install driver. In general, the Win10 system can automatically identify and install the driver and the Win7 and Win8 systems may need to install manually.

## 3. Running program




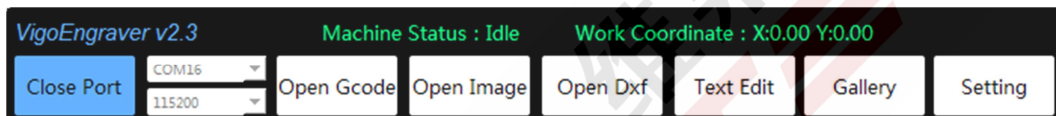


When the driver is installed, please connect the encryption lock to the computer, and click to run VigoEngraver.

The program will automatically search for the available equipment and connects automatically after it is started. Please confirm that the device has been properly connected to the computer. If there are multiple devices connected to the computer at the same time, please select the correct COM port manually. If the connection is disconnected in case, the program will not automatically connect to the device again. If you want to reconnect, please click Connect Device manually.



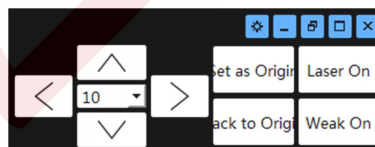
After opening the program, you can select the language interface. Click  on the upper right corner of the program, and open the language selection box. You can choose a Chinese or English interface and set as default.



After connecting the device, you can select the G code, edit text, picture, or select the picture in the gallery.

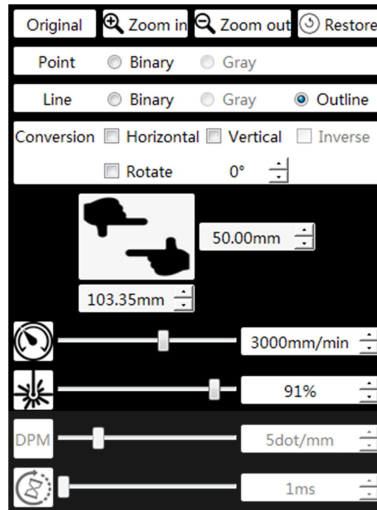
Please note that there will be a more detailed description for some buttons when putting the mouse on these buttons for a moment !

#### 4.Device Control



**Device Control Panel:** The device control buttons are on the top right corner of the program. After connecting the device, the device can be moved manually along the X axis or Y axis by the direction buttons. It also can be controlled by the direction keys on the keyboard. The motion distance can be changed in the middle box (unit: mm). Users can also control the laser on and off by laser, weak on and Turn Off. Please note that these buttons are not available after the start of engraving.

#### 5.Basic Settings



The basic settings are located on the right side of the program.

**Original:** Display the original image has chosen.

**Zoom In, Zoom Out, Restore:** Click these buttons to zoom in, zoom out, and restore the converted image.

**Engraving Mode:** The optional modes are Black-White Point, Black-White Line, Gray Point, Gray Line and Outline.

**Image Transformation:** Provide horizontal and vertical mirror image, color inverse and rotate.

**Image Size:** Setting the engraving size. Total height of engraving can be changed, and total width is just show.

**Other Settings:**

**Engraving Rate:** The unit of engraving rate is millimeters per minute. For the dense case, Note that the actual speed will be reduced with higher engraving point density or small size of engraving range.

**Laser Intensity:** Set the intensity of laser power, the unit is percentage of full power.

**Dots per millimeter (DPM):** Set the dots per millimeter on Point and Line Engraving Mode, the unit is Number of dots per millimeter.

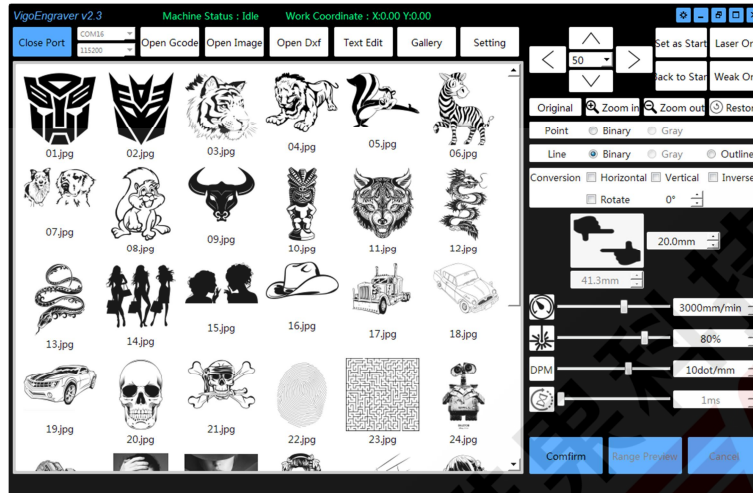
**Engraving time per point:** Set the engraving time per point, the unit is millisecond.

## 6. Text Edit



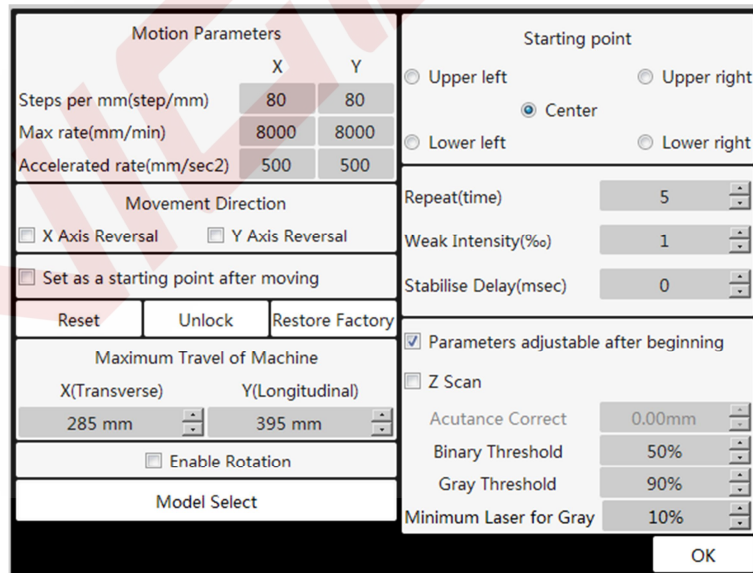
**Text Edit:** Click the Text Edit to open the text edit box which is located in the display area of the program. The text can be entered in the text edit box and it provides basic font settings such as **Bold**, **Italic** and **Underline**. The actual height of the word can be modified in **Height** box in the **Image Size** panel at the right side.

### 7. Gallery



**Gallery:** Click Gallery to display the pictures in the folder of Program directory\Gallery\. The picture can be inputted into the program for painting by double click. Users can call their favorite pictures like \*.jpg and \*.bmp quickly by putting them into the folder of Program directory \Gallery\. And users may click Gallery again to update display without close and restart the program when putting new pictures into the gallery.

### 8. Advanced Settings



The advanced settings are located in the display area of the program , and click the upper button **Settings** to open it.

**Motion parameters:** Users can set the maximum rate and accelerated rate of the device. In general, please use the default value.

**Movement Direction:** This will set the coordinate directions of X and Y axis. Motor R and Motor L

are both checked by default and the painting will right at the users. If none of these is checked, the painting will rotate 180 degrees. If the painting is required to rotate positive or negative 90 degrees, one of **Motor R** and **Motor L** need to be checked and one not, meanwhile please exchange the two motor wires on the main control board. In general, please use the default setting.

**Set origin coordinates after moving:** The program automatically sets the original position when the device stopped in a new position by manual control if checked; otherwise the original position is still the location before moving.

**Starting position:** This will set the position of the device' s original coordinates relative to the actual painting. The default is in the middle of the painting.

**Repeat:** Set the repeat time of engraving.

**Weak Intensity:** Set the intensity of weak laser power.

**Stabilize Delay:** Eliminate the vibration after the movement stops. Delay some time before opening the laser.

**Parameters adjustable after beginning:** When checked, users can adjust the engraving rate, laser intensity and engraving time per millimeter, and related buttons are available at the lower right corner of the program in writing.

**Z scan:** Fold line scanning is available when not in Outline Mode.

**Acutance Correct:** When selecting Z scan and Line Mode, it may reduce the edge sharpness. Users can change this value to make the sharpness correction by the actual carving effect. Usually, the value will not larger than 0.2mm.

**Binary Threshold:** Remove the part close to white and keep the part close to black. Retain the original image according to the percentage of gray color depth 0 (white) to 255 (black). If 20% is set, pixels with a color depth of 204~255 (close to black) will be retained. **Note that after modifying this value, you need to re-click the engraving mode such as black-white line before it can take effect.**

**Gray Threshold:** Remove the part close to white and keep the part close to black. Retain the original image according to the percentage of gray color depth 0 (white) to 255 (black). If 80% is set, pixels with a color depth of 51~255 (most colors) will be retained. The final carved image will correspond to the minimum laser power for gray and the maximum laser power. If the minimum laser power for gray is set at 10% and the maximum laser power is set at 80%, the output power is 10% at the pixel point of the original image color depth 51 (close to white) and 80% at the pixel point of the original image color depth 255 (black) in the actual engraving process. **Note that after modifying this value, you need to re-click the engraving mode such as Gray line before it can take effect.**

**Minimum Laser for Gray:** Set the minimum laser power for gray mode in percentage. This option is only for Point and Line Gray mode.

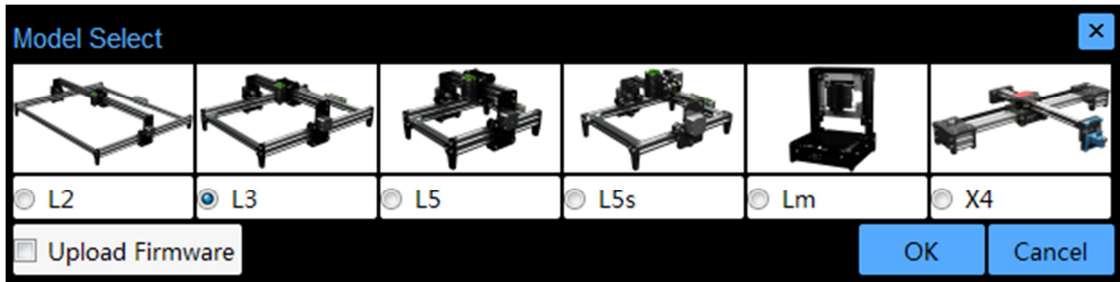
**Reset and Unlock:** In some cases, wrong code may cause the device to work abnormally. At this time, the device is in the state of protection. Please restart all the hardware and software devices, and click the **Unlock** and **Reset** to restore the device.

**Restore Device Settings:** In some cases, click this button to restore the initial state for device. Please click on the **Model Select** again to reset the right parameters after restore the device.

**Model Select:** Select your device for the right settings. If **Upload Firmware** is checked, user needs



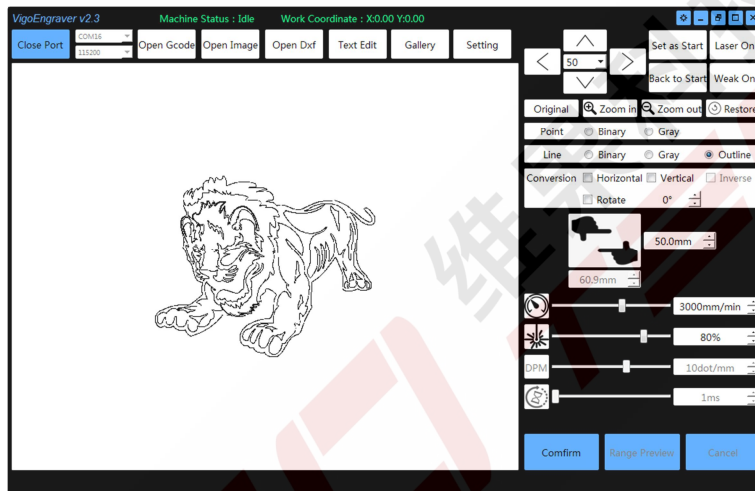
to select the right firmware file and wait for the firmware to be uploaded. This will take some time.



OK: If OK is clicked, the last interface will be returned.

### 9. Engraving control

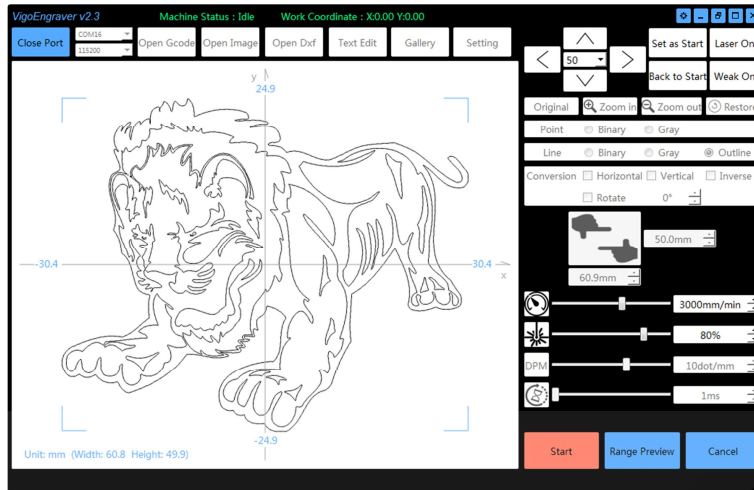
The engraving control buttons are located at the lower right corner of the program.



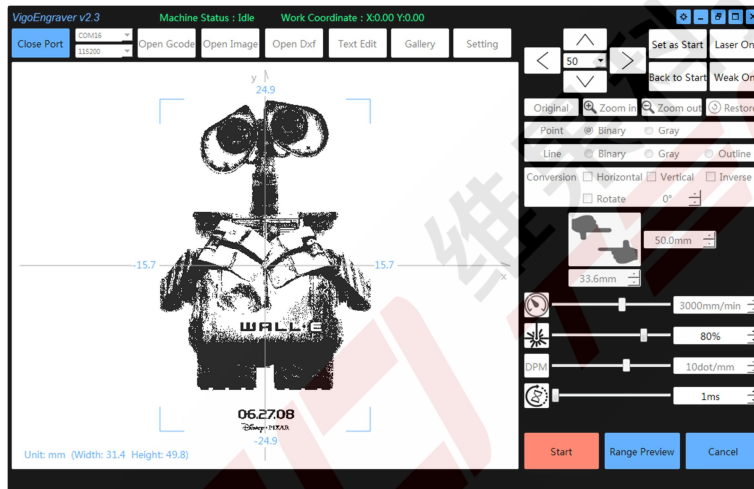
**Range Preview:** Users can preview the range of the engraving range by click Range Preview. When in preview, the button Range Preview is changed to Stop Preview and users should click this button to stop preview. Please note that there may be a small time' s delay for completely stop after click the button. Users should wait for the device stops completely before other operations.

**Confirm:** When Confirm is clicked, the main part of the program will display the actual engraving, and the button Confirm is changed to Start while the Preview and Cancel are available. If Parameters adjustable after beginning is not clicked, there will be the Device Control buttons, Start, Pause, Stop and Disconnect Device available yet. Users may preview the range of the painting by click Range Preview, start writing by click Start or return the image selecting state by click Cancel.

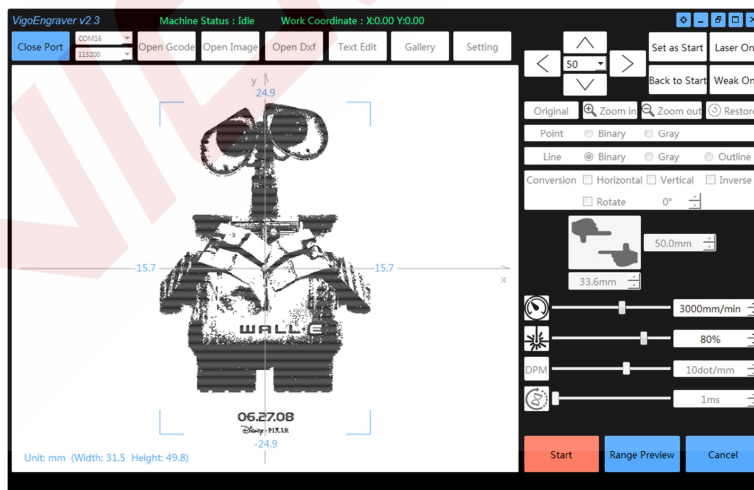
The followings are examples of various engraving modes.



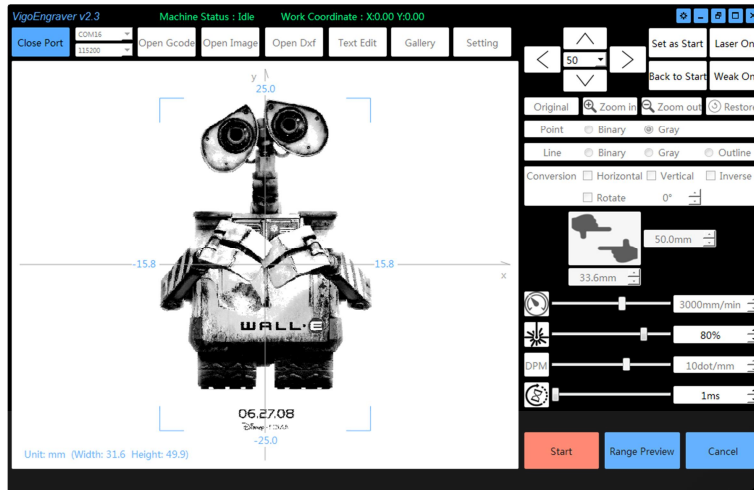
Outline Mode



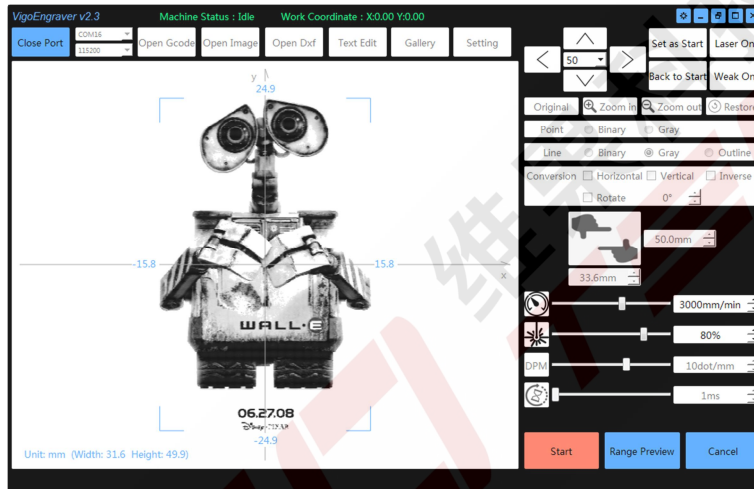
Black-White Point Mode



Black-White Line Mode

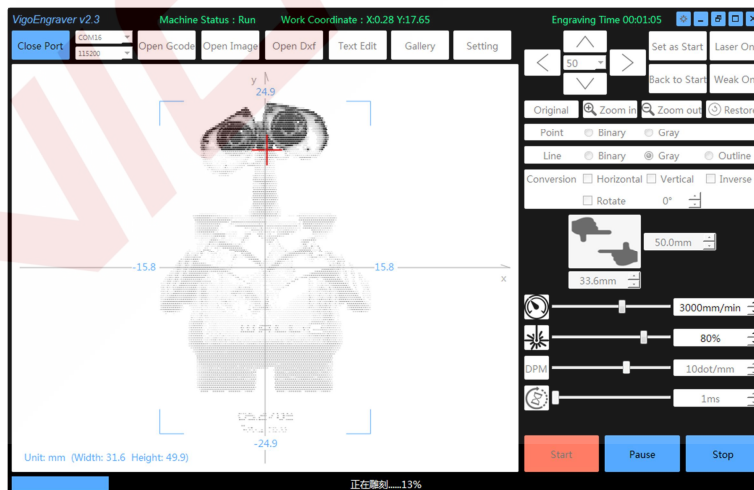


### Gray Point Mode



### Gray line Mode

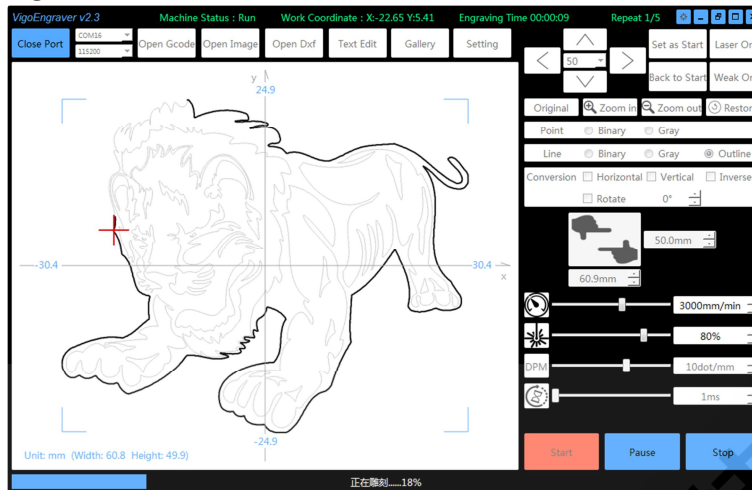
The following is the interface after Start is clicked.



**Start:** The engraving will start by clicking Start. The status bar will show the overall engraving progress, and the engraving time will be showed on the title bar. When it started, Start is not available while Pause, Stop and Disconnect Device are available. The painting show as red with the completed parts, and the rest parts which are not finished show as gray. If Parameters adjustable after beginning is clicked, the Engraving rate, Laser Intensity and Engraving time per point will be



available when engraving.

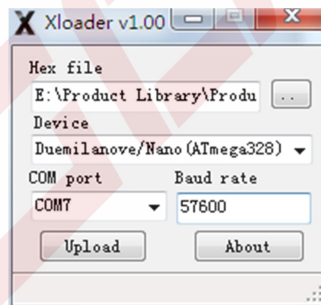


If Repeat is larger than 1, time of engraving and total repeat time will be showed on the title bar.

## 10. Firmware

Normally, the control board has a good firmware already. Users can use it normally according to the instructions above after connecting to the device.

In some cases, if users need to upload firmware, please use the software XLoader to upload the firmware to the control board. Users may turn off VigoEngraver, select firmware file \*.hex, select chip ATmega328, select COM port, select baud rate (usually 57600 for VG-C1, others are 115200), and click upload. The RX, TX lights on control board will continue to flicker until XLoader shows the upload is successful.



## 11. Update

Our software will be updated continuously.

Please visit our website: [www.vigotec.cn](http://www.vigotec.cn) for more new products and software.

## Warning:

**Strictly forbidden for laser irradiation of the eyes!**

**Strictly forbidden for watching laser without wearing protective glasses!**

**Strictly prohibit the use of children!**

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