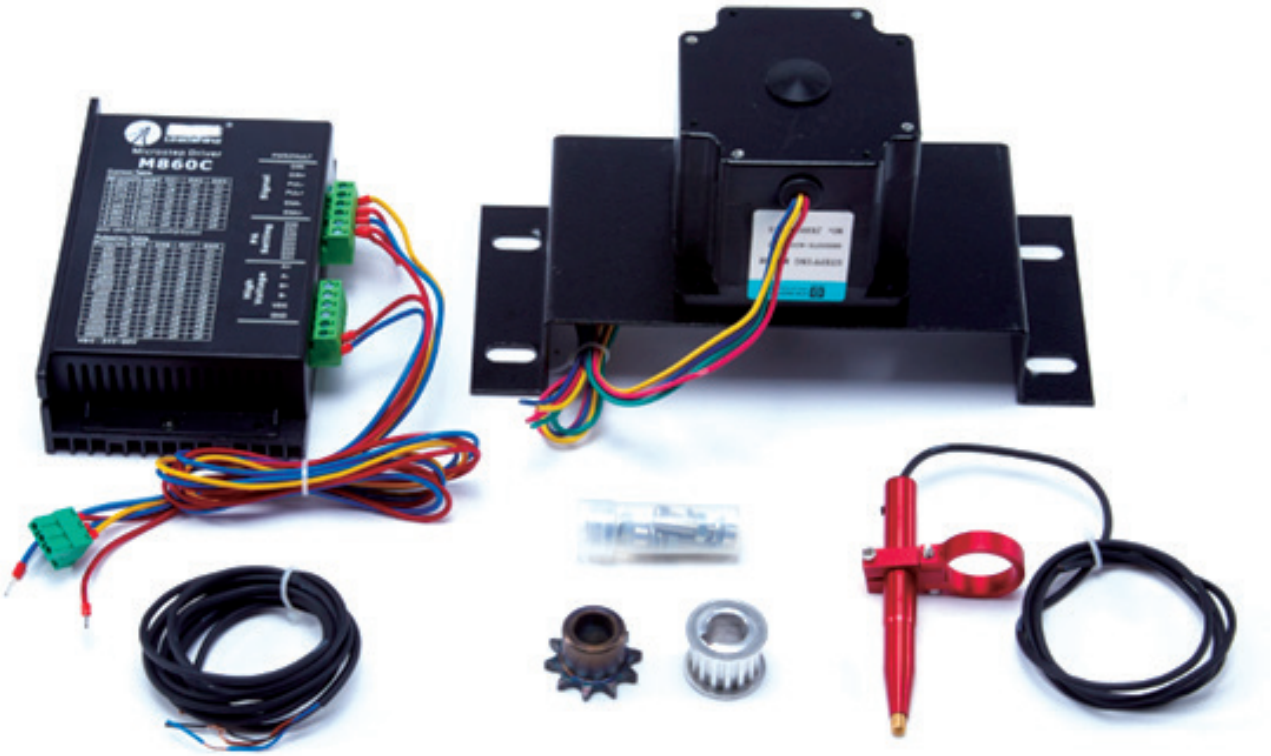
V20220520

Laser Autofocus Sensor Kit
Instruction Manual



Read Carefully Before Use
Keep for Future Reference

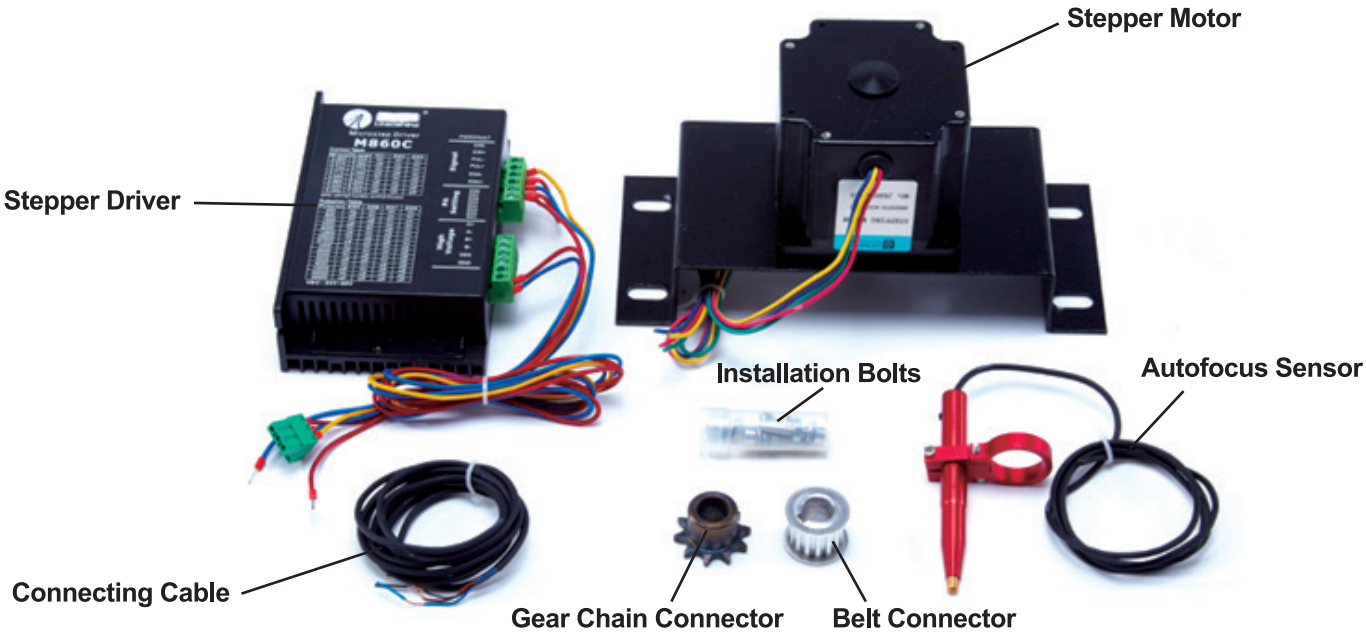
Safety Information

⚠ Warning!

- This machine works with lasers which can lead to serious injuries or property damage if used improperly:
  - **DO NOT** operate lasers around combustible or explosive materials.
  - **DO NOT** place bodily parts in the path of the laser.
  - **ALWAYS** wear appropriate personal protective equipment such as protective eyewear when operating lasers. It is also recommended to secure the worksite or erect protective screens around the laser path to prevent injury to passersby.

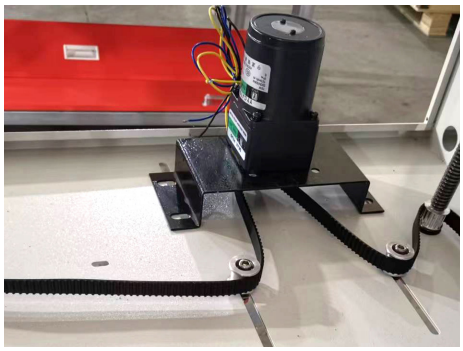
- **DO NOT** allow children or individuals with impaired physical or mental capacities to operate this machine without strict supervision and training.
- The working area **MUST** be equipped with appropriate fire fighting equipment.
- Certain materials can emit gases or radiation when exposed to lasers. It is recommended to research your working materials before exposing them to the laser so appropriate precautions and equipment can be used.
- **DO NOT** open the control cabinet or other components while the machine is in use.
- **DO NOT** leave the machine unattended when it is operational.
- **DO NOT** operate this machine in overly hot or humid environments.
- **DO NOT** assemble or disassemble this machine without proper training.

Parts List



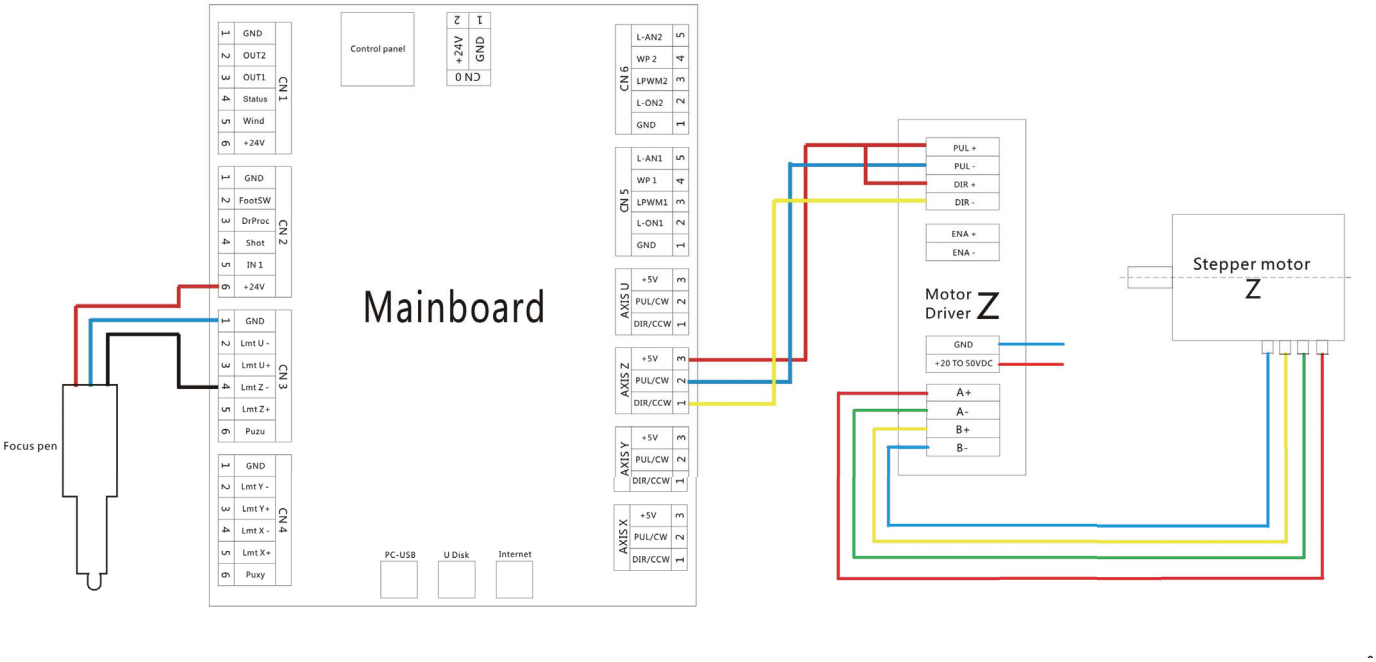
Installation

1. Install the autofocus sensor on the laser head, making sure the bottom of the sensor is 5–10 mm lower than the bottom of the laser head.
2. Install and affix the motor in the hole near the Z-axis lifting transmission belt at the bottom of the engraving machine. If the transmission belt uses a belt, use the belt connector. If the transmission belt uses a chain, use the gear chain connector.



3. The motor is a two-phase 4-wire motor. Use a multimeter to confirm which wires are A+, A–, B+, and B– although these are usually color coded red, green, yellow, and blue respectively.

   Connect the wiring according to the circuit diagram below.



4. Connect the 4 wires of the motor to the A+, A–, B+, and B– ports of the driver.
5. Connect the power cord of the driver to the 24V DC port of the switching power supply.
6. Connect **PUL+/–** and **DIR+/–** of the driver to the corresponding ports of the Z axis on the motherboard.
7. Connect the autofocus sensor to the **CN2/CN3** designated position on the motherboard.

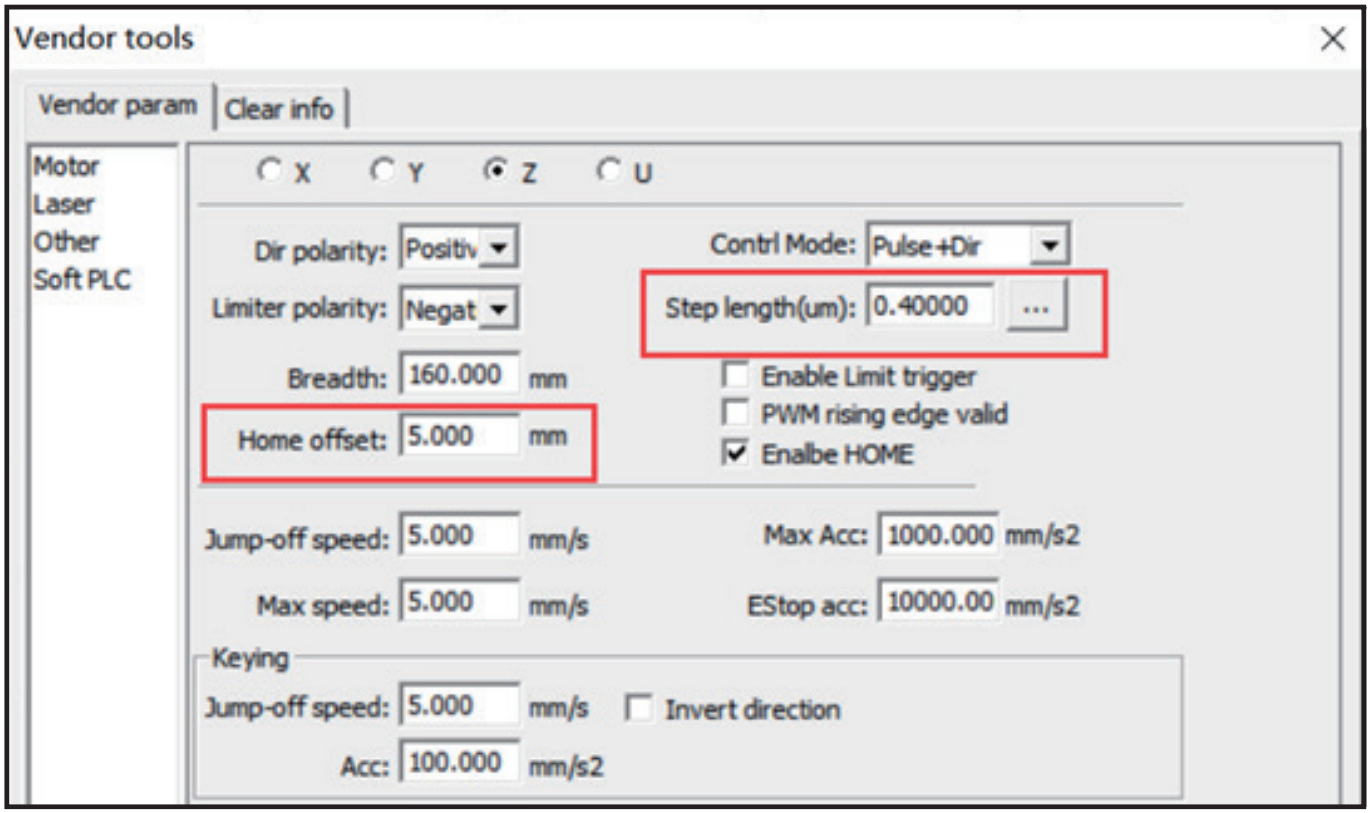
8. Confirm that **SW1–SW8** of the PA settings on the side of the driver are set to the following positions:

SW1	SW2	SW3	SW4	SW5	SW6	SW7	SW8
OFF	ON	OFF	OFF	OFF	ON	OFF	OFF

Operation

Connect the computer with your copy of RDWorks V8 to the engraving machine. Open the software interface and enter the factory settings. Adjust the Z-axis and/or U-axis parameters. Set the step length to 0.40000. The home offset should be the focus height after the autofocus is triggered. You can use the focal length ruler to help determine this distance and fill in the value.

After the settings are complete, select the autofocus function on the laser engraver control panel menu and test it.



Maintenance

- Periodically clean the field lens of the laser, especially if the engraving quality becomes noticeably poorer.
- Periodically clean the workbench with 75% isopropyl alcohol.
- Remove any dust that accumulates anywhere on the machine before and after each use.
- Periodically confirm that all screws and bolts are fastened properly and tighten any that has become loose.

Contact Us

Thank you for choosing our products! If you have any questions or comments, contact us at **help@cs-supportpro.com** and we'll resolve your issue ASAP!

For a .pdf copy of the latest version of these instructions, use the appropriate app on your smartphone to scan the QR code to the right.