



DPSSL DRIVER User Manual




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I. Inventory


<p>1. Laser</p> 	<p>2. DPSSL DRIVER</p> 
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II. Symbols Used

	<p>DANGER, hazardous visible and invisible LASER RADIATION!</p>
	<p>ATTENTION, general hazard area!</p> <p>This symbol used on the equipment means: Before using the equipment implicitly read the accompanying documentation. Pay attention to all safety relevant references as well as important operating and maintenance instructions!</p> <p>This symbol used in the operating instructions refers to safety relevant warnings and indicates dangerous situations. The non-adherence to these warnings may lead to injury to personnel or material damage.</p>
	<p>DANGER, hazardous voltages! Risk of electric shock!</p>

III. Safety Precautions and Instructions

	<p>WARNING: Laser radiation can be harmful to eyes and skin. All safety precautions and instructions in this manual and in the documentation accompanying the laser product you are going to use with this product must be read, understood and followed before installing or operating the laser system driven by this product.</p> <p>All applicable laser safety rules and standards apply. The precautions and instructions in this manual DO NOT replace or supersede the applicable safety standards in your country.</p>
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	<p>Caution- Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure!</p> <p>If the product is used in a manner not specified herein, the safety features provided by the equipment may be impaired.</p>
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	<p>WARNING: Carefully read the documentation accompanying the laser product to be used with this product.</p>
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1. Optical Safety Precautions

- 1.1. Wear protective eyewear at all time. Selection depends on the wavelength and intensity of radiation, the condition of use. NEVER look into a laser beam or bright reflection mirror plane when wearing laser safety goggles.
- 1.2. Viewing optics or display screens should be used during operation to make the accessible emission less than Class I. Reflected beams may also cause serious accidents.
- 1.3. Never use laser in the vicinity of highways and airports. DO NOT target moving vehicles and airplanes.
- 1.4. Never randomly aim a laser out the window
- 1.5. DO NOT use a laser at locations marked “No smoking” or “flammable and explosive” which is liable to cause danger.
- 1.6. Use an infrared detector to verify that the laser beam is on or off before working on the laser.
- 1.7. Set up controlled access areas for lasers only in well marked areas with controlled access. Be sure to post appropriate warning signs visible to all.
- 1.8. The operation of lasers should be under the supervision of qualified personnel only. When not

in use, lasers should be shut down completely and made off-limits to unauthorized personnel.

- 1.9. Limit access to the laser system to persons required to be present.
- 1.10. Laser should be operated in clean and dry conditions with no electricity
- 1.11. Maintain experimental setups at low level to prevent inadvertent eye encounter with beams.



When a laser is specified to emit at wavelengths longer than 700nm (invisible IR light) or shorter than 400nm (invisible UV light), extra care must be taken to use appropriate eyewear. Because such invisible laser radiation is extremely dangerous. Please refer to the safety standards that apply.



2. Electrical Safety Precautions

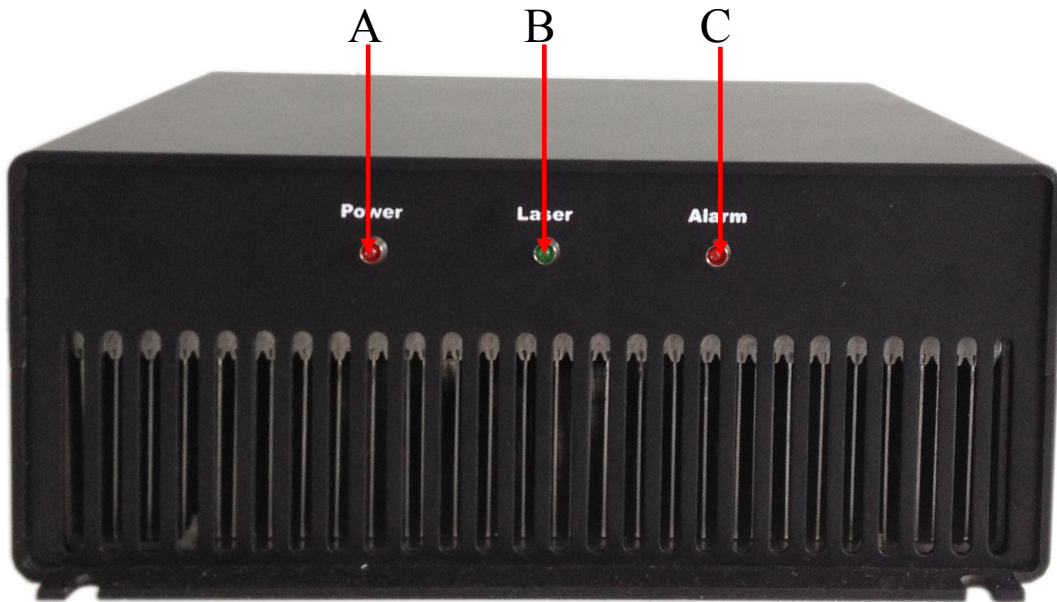


Any attempt to repair the device is always at the user's own risk; it may void any warranty and is discouraged. Always unplug the power cord from the electrical outlet! Improper repairs or modification may be hazardous during the repairs or modifications will void any warranty.

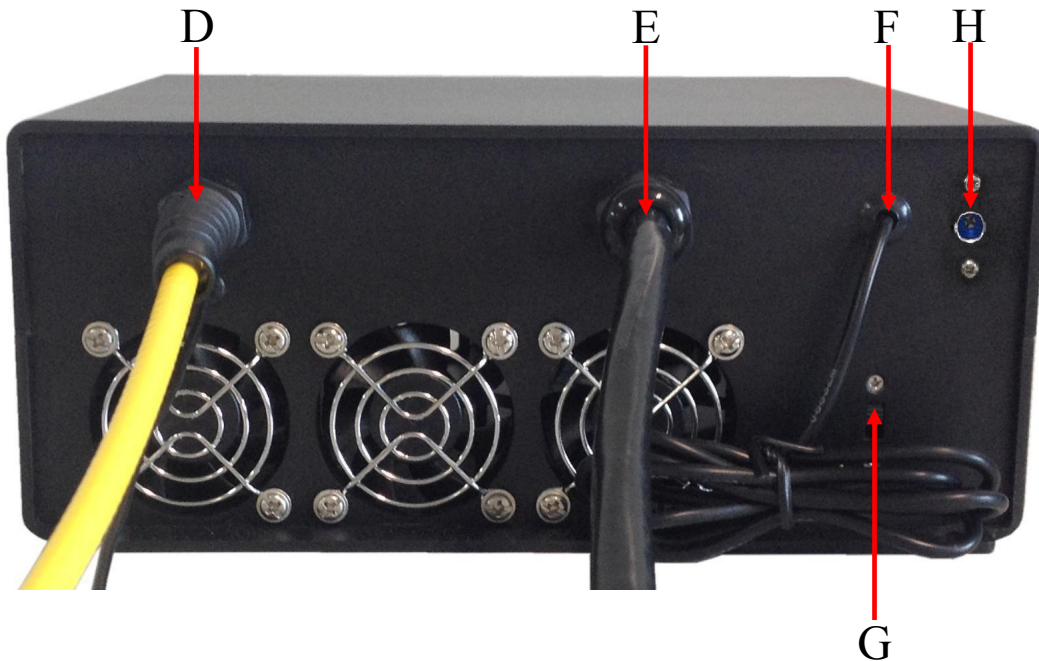
- 2.1. Disconnect main power lines before working on any electrical equipment when it is not necessary for the equipment to be operating.
- 2.2. Never work on electrical equipment unless there is another person nearby who is familiar with the operation and hazards of the equipment, and who is competent to administer first aid.
- 2.3. When possible, keep one hand away from the equipment to reduce the danger of current flowing through the body if a live circuit is accidentally touched.
- 2.4. Always use approved, insulated tools when working on equipment.
- 2.5. Special measurement techniques are required for this system. Ground references must be selected by a technician who has a complete understanding of the system operation and associated electronics.

IV. Operation Instructions for DPSSL DRIVER

Front Panel Control and Connections



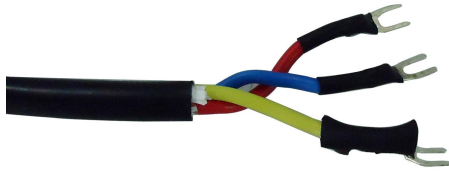
Rear Panel Control and Connections



Description of Controls of the DPSSL DRIVER

	Abbreviation	Function
A	Power Signal Light	When the switching power supply for laser power supply for the right into the 12V/25A DC voltage, the power signal light.
B	Laser Signal Light	The laser start to when the green light "Laser" is on, the laser will emit.
C	Alarm Signal Light	The laser power supply protection laser in working process due to overheat or over-current protection, the alarm light is bright.
D	Fiber	Fiber connectors is used to fix fiber, where the fiber is fixed, never plug, strongly curved fold and impact, otherwise it will damage the laser.
E	Power supply line	Connect the power supply (Appendix1).
F	Signal Cable	Be used to input the external signal (Appendix2).
G	Toggle switch	Push the toggle switch at Top gear, the laser works as CW, marking signal is not available. Push the toggle switch at following gear, the laser works as Modulation, now external marking signal is workable. External signal (0/5VDC) and 0-10V voltage are necessary to make it work.
H	Knob	It is used for adjusting the first stroke of a character when Marking. Turn the knob counterclockwise, the marking effect will increase. Turn the knob clockwise, the marking effect will decrease.

Appendix1






Color	Function
Red	12V+
Blue	GND
Yellow	Earth wire

Note: Laser power requirements 12V/25A switch power supply.

Appendix2

Function	Function of Marking Board	Color
Signal +	Laser/ laser0+/PWM+	Red
Signal -	GND	Black

V. Operating Environment

	<p>Use of controls or adjustments or performance of procedures other than those specified in this manual may result in hazardous radiation exposure.</p>
	<p>The laser can be operated when the case temperature of the laser system is close to the room temperature to avoid the damage caused by the large temperature difference.</p>
	<p>It is not recommended to operate the laser out of the temperature range for prolonging working lifetime. The unit is designed to shut down if the laser exceeds operating temperature limits. Failure to comply with the environment temperature may cause permanent damage to the laser. All our lasers are designed with ESD protection</p>

The environmental conditions under which the laser system will function are listed below:

- Temperature: 10-35°C (environment temperature)
25±3°C (bottom plate temperature /recommended temperature for optimal pumping spectral response)
- Maximum relative humidity: 80±10%

警告






- Invisible or visible radiation is dangerous to humans and should not be viewed directly or indirectly with or without optical instruments. Please refer to IEC 825 - 1 “Safety of Laser Products” and 21 CFR 1040.10 - 1040.11 “Performance Standards for Light Emitting Products” for additional information.

- Main supply voltage: do not exceed ±10% of the nominal voltage.

VI. Preparation before Operation

1. Check if the laser power supply and the power switch is connected
2. Check if the fan wire connections (If not connected with the fan, the use of lasers seriously affect the laser heat effect of laser or damage).
3. Laser power requirements 12V/25A switch power supply. Make sure your local voltage is in the range showed at the switching power supply. Open the shutter.
4. Signal interface: You need to connect the signal input line when use it. Red is Signal+ , Black is Signal-.

VII. Installation and Operation Instructions

	<p>Be sure that you have read and understood all safety precautions and instruction from the previous chapters</p>
	<p>The laser system may only be installed and operated by qualified personnel who are aware off ALL applicable laser safety rules and injury or equipment damage. The establishment of the customer shall take all necessary measures to ensure that ALL laser safety requirements are met. The customer is solely responsible for installation, operation and observation of ALL applicable laser safety rules and standards .It is not liable for any damage , injuries , etc. Resulting from the improper installation or improper operation of the laser .If you have any questions regarding installation and operation, please contact us.</p>
	<ul style="list-style-type: none"> ➤ It is strongly recommended that the laser be mounted on a flat, thermally dissipating surface to maintain a high-level of heat dissipation, and reliability. Failure to comply with this procedure may cause permanent damage to the laser ➤ Slowly vary in between 10°C -35°C. Or else, the laser will not work well ➤ Do not stick anything under the laser head ➤ The opening for ventilation should not be blocked, by placing anything within 0.05m-0.1m ➤ If the laser system needs to be installed into other equipment, make sure the airflow is clear. If necessary, the extra fans can be used for cooling

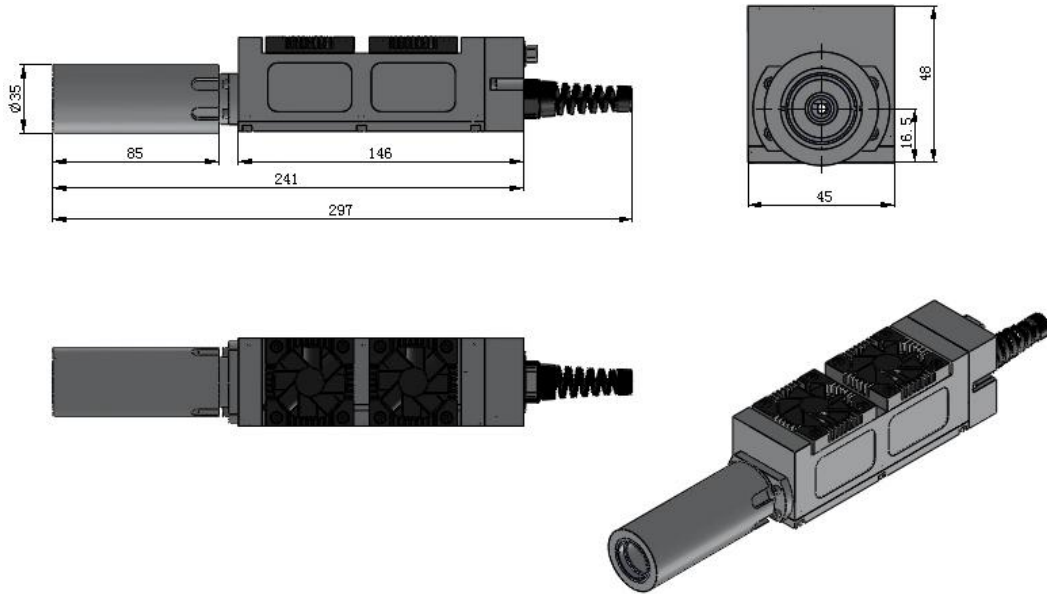
1. Open the shutter.
2. Make sure signal cable is connected with marking board (refer to appendix).
 - A、 Without signal input, the laser is in the off state;
 - B、 With signal low level input, the laser outputs minimum value/No output;
 - C、 With signal high level input, the laser outputs maximum value.
3. Connect the plug of the power supply to the mains that can provide input voltage indicated on the power supply, the red light “Power” is on, the laser no output. The laser start to work after 20 seconds, the green light “Laser” is on, the laser will emit. The warming up time is about 15minutes.
4. Only for unexpected accident occurs, the red light “Alarm” will be on. Please pull out plug of the power supply. Please reset Connect the plug after a few minutes, then to restart the laser system again.
5. Closing the laser system: Pull out plug of the power supply.
6. To prevent optic path from dust, you should close the shutter.

VIII. Warranty and maintenance

1. The warranty is one year from the shipping date.
2. This warranty will not apply to those products which have been repaired or altered other than in accordance with the terms of this agreement.
3. The warranty does not apply under these conditions:
 - 3.1. Abused, misused, improper handling in use, or storage, or use in an unauthorized or improper manner or without following written procedures supplied by manufacturer.
 - 3.2. Original identification markings or labels have been removed, defaced or altered.
 - 3.3. Any other claims not arising directly from defects in material or workmanship.
4. Always use finger cots, latex gloves, or the equivalent when handling optics, and use a clean, cushioned work surface.
5. In case you have any question during operation, contact a representative.
6. Please do not open the laser head without instructions from the manufacturer, which may lead to the exposure of hazardous visible and invisible laser radiation. Exceptional care must be taken when operating the laser with the covers removed. Laser protective eye wear must be worn.

IX. General assembly drawing

a) Laser



b) DPSSL DRIVER

