

Operating Instructions for PSU-H-LED Power Supply

Note: Only operate the laser after it reaches room temperature, to avoid damage from large temperature fluctuations.

1. Product features

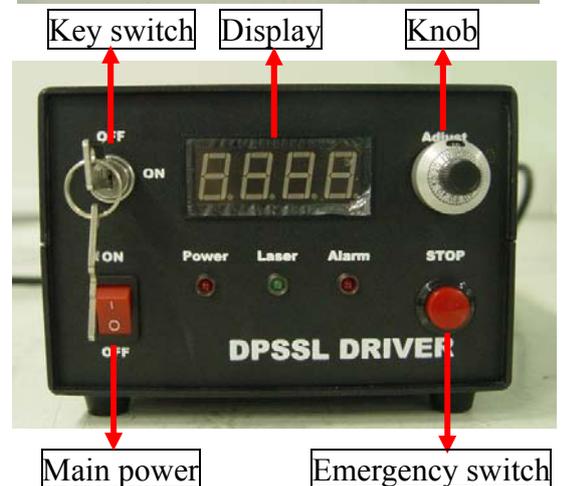
- 1.1. Place the laser and power supply on a heat-conducting surface, such as a metal plate.

Note: The heat-sink at the bottom of laser head is an air duct.

- A. The air duct should not be blocked: make sure there is nothing placed within 2 inches.
- B. If the laser system needs to be installed into equipment, please make sure the airflow is clear.
- C. If a cooling fan is needed in the equipment, please make sure the air flows front-to-back, as shown in the figure.



- 1.2. Check the main power and make sure it is "OFF".
- 1.3. Check the key switch and make sure it is "OFF".
- 1.4. Emergency switch: press to immediately switch off the laser. Reset the main power and key switch to restart the laser.
- 1.5. Lock: this is the lock of the power control knob. Move it to the unlock position (see figure).
Knob: The knob is set to the maximum current position as the factory default. Please unlock it before adjusting the knob. Turn the knob counter-clockwise to decrease the output power.
- 1.6. Display: this shows the current (factory default).
- 1.7. Make sure your local voltage is within the range shown on the back panel.
- 1.8. Interlock: pulling it out shuts down the laser system. This allows a remote cutoff switch. Reinstall the interlock, and on the front panel reset the main power and key switch to restart the laser.
- 1.9. TTL or Analog external control signal interface (back panel).



1.10. Toggle switch:

1.10.1. Toggle switch for modulation

Toggle switch at “TTL+”: this is standard TTL, with the laser being ON at a high input level, and OFF at a low input level.

Toggle switch at “TTL-”: reverse of standard TTL, with the laser being OFF at a high input level, and ON at a low input level.

Toggle switch at “Analog”: laser system works under analog function.

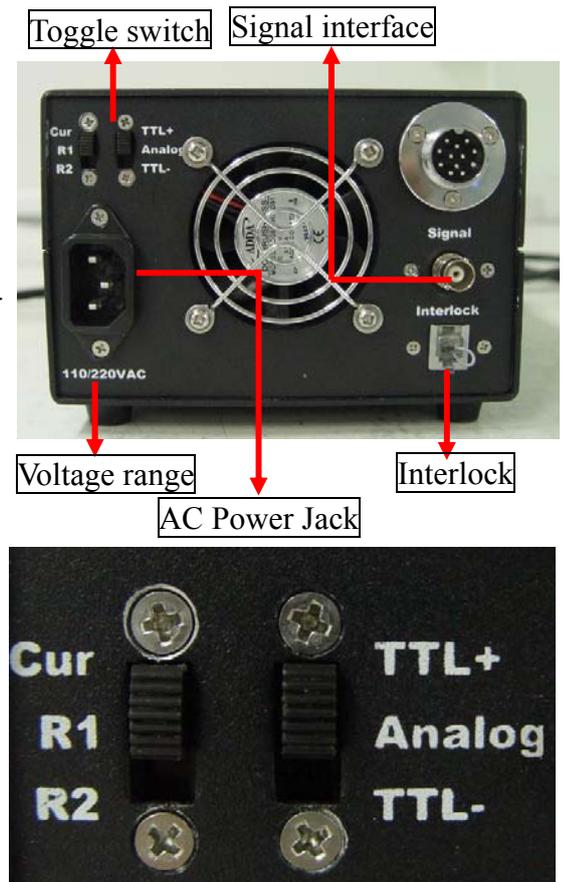
1.10.2. Toggle switch for display

Toggle switch at “Cur”: display at front panel shows the current of diode (A) (factory default).

Toggle switch at “R1”: display at front panel shows the value of thermal resistance for diode (K Ω).

Toggle switch at “R2”: display at front panel shows the thermal resistance value of crystal (K Ω).

Note: Make sure the key switch is turned “OFF” before changing any toggle switches.



2. Operation

- 2.1. Attach the cord from the laser body to the power supply, and fasten the locking ring on the connector.
- 2.2. Connect the power cord of the power supply to AC Power Jack.
- 2.3. Uncover the aperture.
- 2.4. Switch on the main power of the power supply. The red LED (“Power”) should be lit.
- 2.5. Turn the key switch to “ON”. The laser starts to work after about 5 seconds delay. The green LED (“Laser”) should be lit. The warm up time is about 15 minutes.
- 2.6. Only for unexpected accidents, the red LED (“Alarm”) will be lit. This means the laser system is working in an abnormal state. Please turn the key switch to OFF and then switch off the main power. Wait a few minutes, then restart the laser system again.
- 2.7. TTL and analog modulation are optional. As for the TTL or analog instructions, please refer to the “Notes for TTL Modulation” or “Notes for Analog Modulation.”

Note: for analog function, you need to provide 0-5 VDC input voltage.

- 2.8. Closing the laser system: Turn off the key switch first, and then switch off the main power.
- 2.9. Cover the aperture to keep dust from the optic path.

3. Warranty

- 3.1. The warranty is one year from the shipping date.
- 3.2. This warranty will not apply to those products which have been:
 - 3.2.1. Repaired or altered other than in accordance with the terms of this Agreement.
 - 3.2.2. Abused, misused, improperly handled in use or storage, or used in an unauthorized or improper manner or without following written procedures supplied by manufacturer.
 - 3.2.3. Original identification markings or labels have been removed, defaced or altered.
 - 3.2.4. Any other claims not arising directly from material defects in material or workmanship.

4. Laser safety

- 4.1. All lasers and laser light show systems have intrinsic dangers - even laser pointers! Following basic laser safety rules and the specific safety regulations of the jurisdiction in which you operate is essential.
- 4.2. Safety with high powered lasers is a critical issue that cannot be overlooked. Despite their brilliant beams and ability to burn, high power laser pointers and portable lasers are only a danger to your eyes. But the danger that lasers represent to your eyes is very serious. If the visual receptors in your eyes are damaged by a burning laser (or by longer exposures from non-burning lasers), they do not heal or recover.
- 4.3. As far as power output, laser pointers and portable lasers do not release that much power. Especially not when compared to a normal 75W or 100W light globe. What makes the light from lasers so dangerous is that it has two unique properties.
 - 4.3.1. Coherent and focused. The energy is focused on a very small area similar to the way a magnifying glass focuses sunlight.
 - 4.3.2. Collimated. The light does not spread out from a laser; it stays in a focused narrow beam that makes lasers almost as dangerous at a distance as close up.

This not to say you should be afraid of lasers or avoid using them. What you should do, however, is treat lasers with respect, be aware of their dangers and follow some basic guidelines to ensure your safety.