



High Power CW 532 nm DPSS Lasers Sprout-G Series



Features

- Compact laser head with Seal™ enclosure for long lifetime
- LockT™ optics mounting for permanent laser alignment
- Long lifetime pump diode pack fiber-coupled to laser head
- Low noise <0.03% rms with Noise Elimination Technology
- Excellent long-term power stability <0.5% rms over 24 hours
- Closed-loop, purpose-built TEC chiller integrated in power supply
- 5, 6, 8, 10, 12 and 15 W versions

Applications

- Pumping Ti:Sapphire lasers:
ultrafast & continuous-wave
- Pumping dye lasers
- Spectroscopy
- Flow cytometry
- Solar cell processing
- Film subtitling

Patent Pending

Sprout™ is a compact, diode-pumped solid-state (DPSS) laser providing high-power, continuous-wave (CW) power at 532nm in a near- perfect TEM₀₀ mode with extremely low optical noise and excellent long-term stability. Sprout™ is truly a next-generation laser designed and manufactured using many years of experience to provide a sealed, turn-key source of collimated green light with high spectral purity.

A number of key technologies enable Sprout™ to guarantee this performance. Seal™ technology keeps all dirt, dust and moisture out of the laser head to provide years of uninterrupted usage without need for cleaning or maintenance. LockT™ technology locks all laser head optics permanently in perfect alignment. Finally, for those applications requiring near-zero optical noise, Noise Elimination Technology (NET™) is the solution.

The laser head is a monolithic 3-dimensional design for ruggedness and compactness to minimize the space consumed in your lab or instrument. The fiber-coupled pump diode package, contained in the power supply, has an expected lifetime of more than 20,000 hours to minimize cost-of-ownership. The power supply also contains an integrated thermo-electrically-cooled (TEC) chiller. The chiller is designed specifically for this application to provide increased reliability and reduced overall system footprint. Additional features include automatic laser power control and both USB and RS-232 interfaces for external monitoring, control and remote service.

Sprout™ is a state-of-the-art laser designed for today's applications. It combines superb performance and tremendous value for today's market.

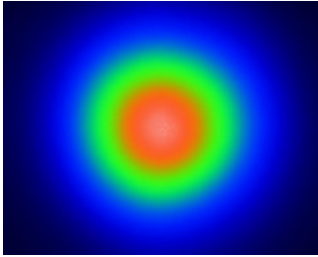




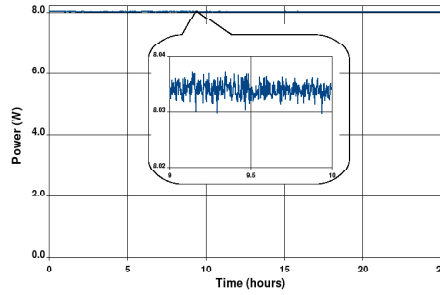
Laser Output Characteristics ^{1,8}	S-G-5W	S-G-6W	S-G-8W	S-G-10W	S-G-12W	S-G-15W
Average Output Power	> 5 W	> 6 W	> 8 W	> 10 W	> 12 W	> 15 W
Wavelength	532 nm					
Spectral Purity ²	> 99.9 %					
Spatial Mode	TEM ₀₀					
Beam Quality (M ²)	1.0 - 1.1					
Beam Ellipticity	< 1.0 : 1.1					
Beam Diameter ³	2.3 mm ± 10%					
Beam Divergence ⁴	< 0.5 mrad					
Pointing Stability ⁵	< 2 μrad/°C					
Power Stability ⁶	< ± 0.25 % rms					
Noise ⁷	Standard version: < 0.2 % rms Low noise (NET) version: < 0.03 % rms					
Polarization	> 100:1 vertical					
Power Requirements						
Operating Voltage	100-240 VAC, 50 Hz / 60 Hz					
Power Consumption	5W-12W versions: 500 W max, 300 W typical 15W version: 800 W max, 500 W typical					
Cooling Requirements						
Laser Head	Closed-loop chiller in Power Supply - Cooler					
Power Supply (in Power Supply - Cooler)	Air-cooled					
Environmental Specifications						
Operating Temperature	64-90°F (18-32°C)					
Relative Humidity	8-85%, non-condensing					
Laser Head - Physical						
Dimensions (Height x Width x Length)	2.7 x 5.3 x 8.9 inches (69 x 135 x 225 mm)					
Weight	approx. 7.0 lbs (3.2 kg)					
Cable Length	10 ft (3 m)					
Power Supply-Cooler - Physical						
Dimensions (Height x Width x Depth)	5W-12W versions: 13.6 x 12.7 x 18.9 inches (345 x 323 x 480 mm) 15W version: 15.7 x 12.7 x 18.9 inches (398 x 323 x 480 mm)					
Weight	5W-12W versions: approx. 55 lbs (25 kg) 15W version: approx. 70 lbs (32 kg)					

Notes:

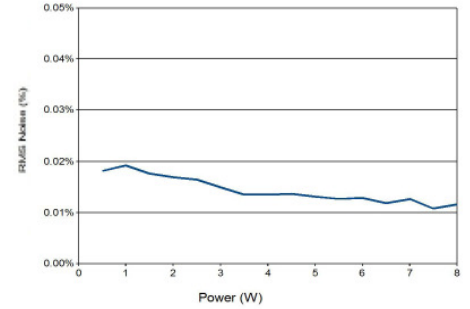
- All performance specifications are guaranteed at specified power
- Output power at 532 nm compared to output power at 1064 nm
- 1/e², measured at the output port of the laser head
- Full angle (1/e²), measured at the output port of the laser head
- Measured at far-field x and y positions after a 30 minute warm-up and over a 20°C to 30°C temperature range
- Measured over a 24 hour period after a 15 minute warm-up
- Measured from 10 Hz to 10 MHz
- Lighthouse Photonics is continually improving the performance of its products. Specifications subject to change without notice.



Typical Far-field beam profile

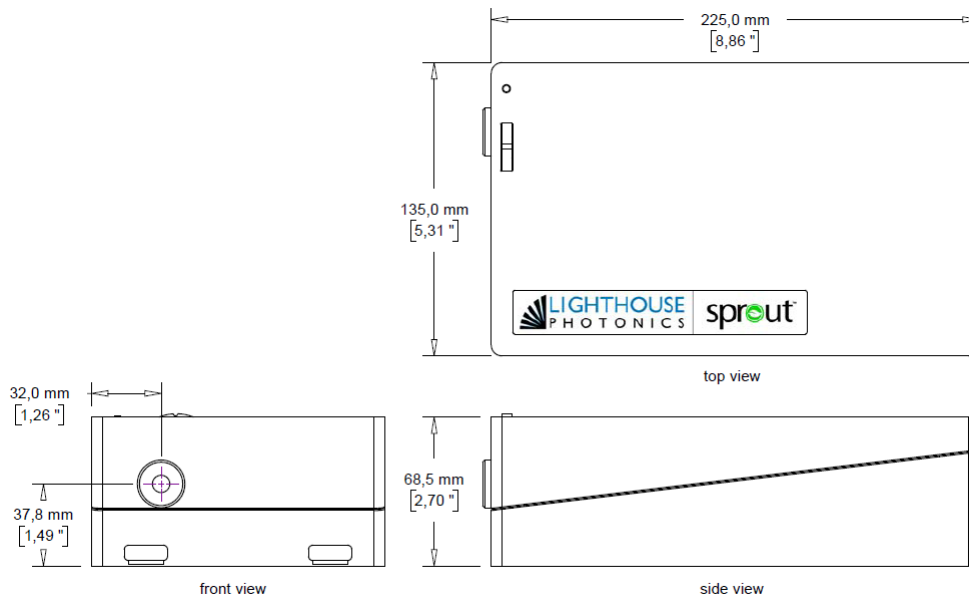


Power stability <0.2% rms over >24 hours



Optical noise <0.02% rms for NET™ version

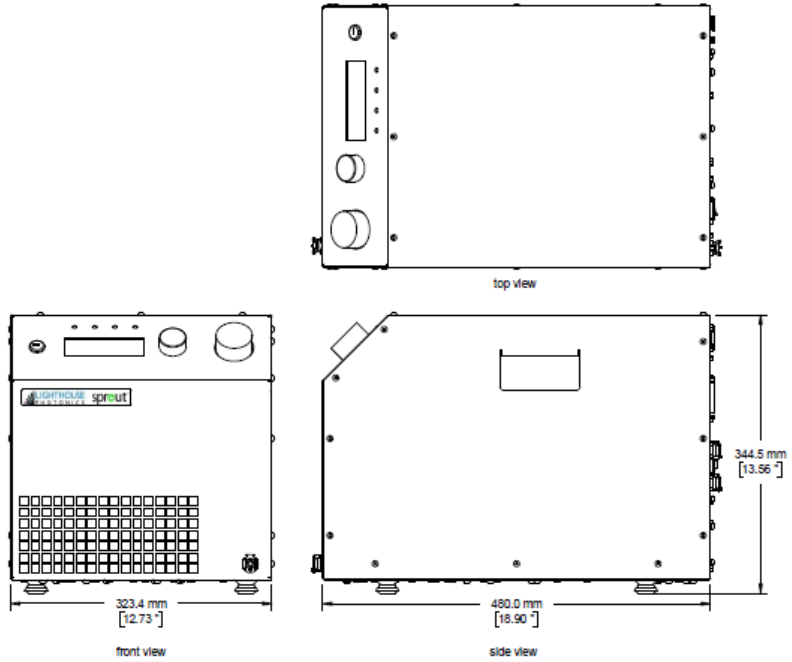
Laser Head Dimensions (all versions)



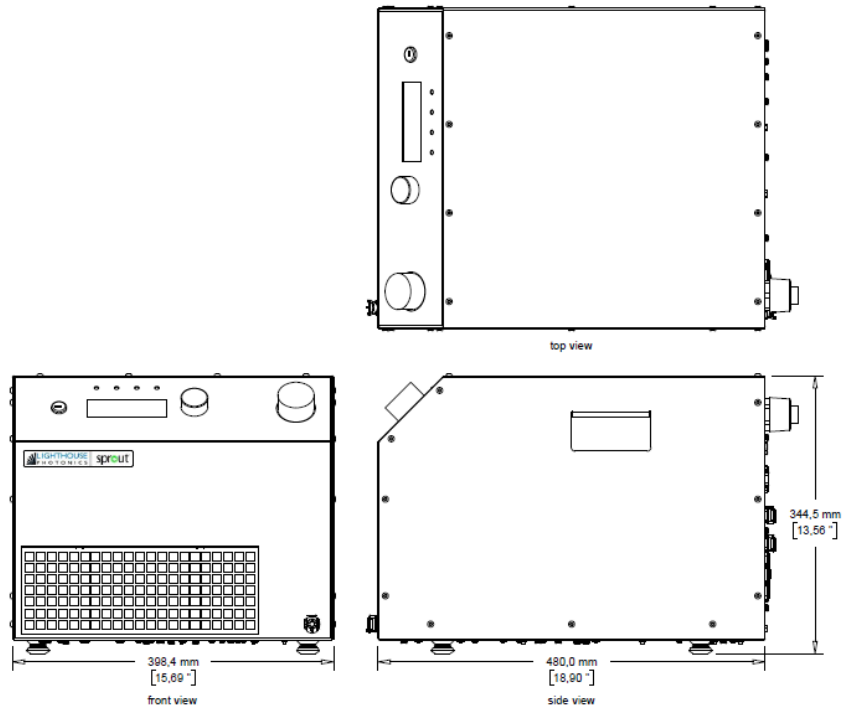


Power Supply - Cooler Dimensions

5W, 6W, 8W, 10W,
and 12W versions



15W version



For more information go to: www.lighthousephotonics.com

Lighthouse Photonics Inc.
 528 E Weddell Drive, Suite 8
 Sunnyvale, CA 94089 USA
 phone: 408-752-0740
 efax: 408-773-6240
 e-mail: info@lighthousephotonics.com



Copyright © 2012 Lighthouse Photonics Inc. All rights reserved.
 Sprout, Seal, LockT and NET are trademarks of Lighthouse Photonics Inc.

