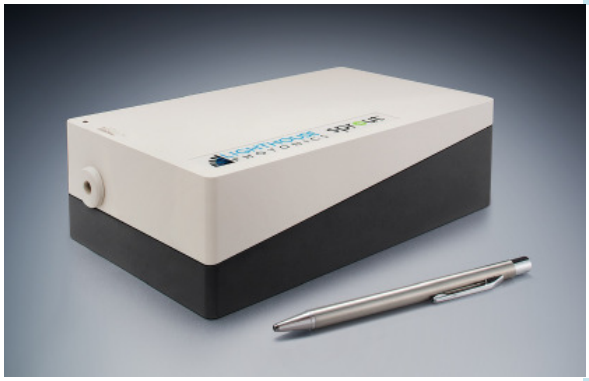
High Power CW 532 nm DPSS Lasers
Sprout-G Series



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 option <0.02% 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, 15 and 18 W versions

Applications
- Pumping Ti:Sapphire lasers: ultrafast & continuous-wave
- Pumping dye lasers
- Flow visualization, PIV
- Flow cytometry
- Spectroscopy

Patented

Sprout™ is a compact, diode-pumped solid-state (DPSS) laser providing high-power, continuous-wave (CW) power at 532nm in a near- perfect TEM_{00} 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 a typical mean time to failure (MTTF) of more than 50,000 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 stabilization 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.

LIGHTHOUSE PHOTONICS

sprout™

Laser Output Characteristics[1,8]	G-5W	G-6W	G-8W	G-10W	G-12W	G-15W	G-18W
Average Output Power	> 5 W	> 6 W	> 8 W	> 10 W	> 12 W	> 15 W	> 18 W
Wavelength	532 nm						
Spectral Purity[2]	> 99.9 %						
Spatial Mode	TEMoo						
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: < 0.1 % rms Low noise (NET) version: < 0.02 % rms						
Polarization	> 100:1 vertical Horizontal polarization option available						
Power Requirements							
Operating Voltage	100-240 VAC, 50 Hz / 60 Hz						
Power Consumption	5W-15W versions: 600 W max, 350 W typical 18W 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-15W versions: 13.6 x 12.7 x 18.9 inches (345 x 323 x 480 mm) 18W version: 13.6 x 15.7 x 18.9 inches (345 x 398 x 480 mm)						
Weight	5W-15W versions: approx. 55 lbs (25 kg) 18W version: approx. 70 lbs (32 kg)						

Notes:
1. All performance specifications are guaranteed at specified power
2. Output power at 532 nm compared to output power at 1064 nm
3. $1/e^2$, measured at the output port of the laser head
4. Full angle ($1/e^2$), measured at the output port of the laser head
5. Measured at far-field x and y positions after a 30 minute warm-up and over a 20°C to 30°C temperature range
6. Measured over a 24 hour period after a 15 minute warm-up
7. Measured from 10 Hz to 10 MHz
8. Lighthouse Photonics is continually improving the performance of its products. Specifications subject to change without notice.

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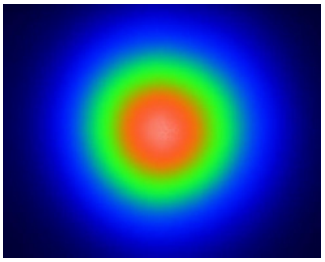
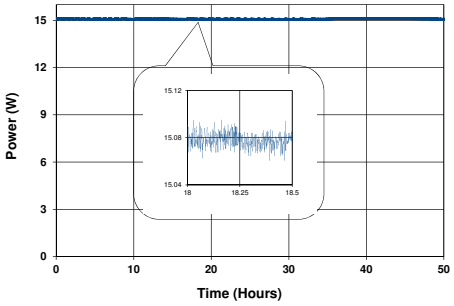
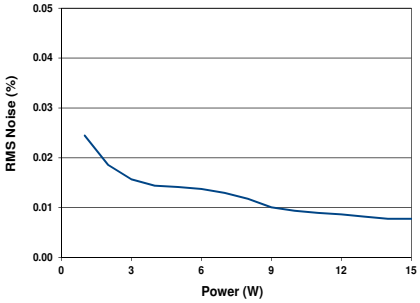


Typical Far-field beam profile

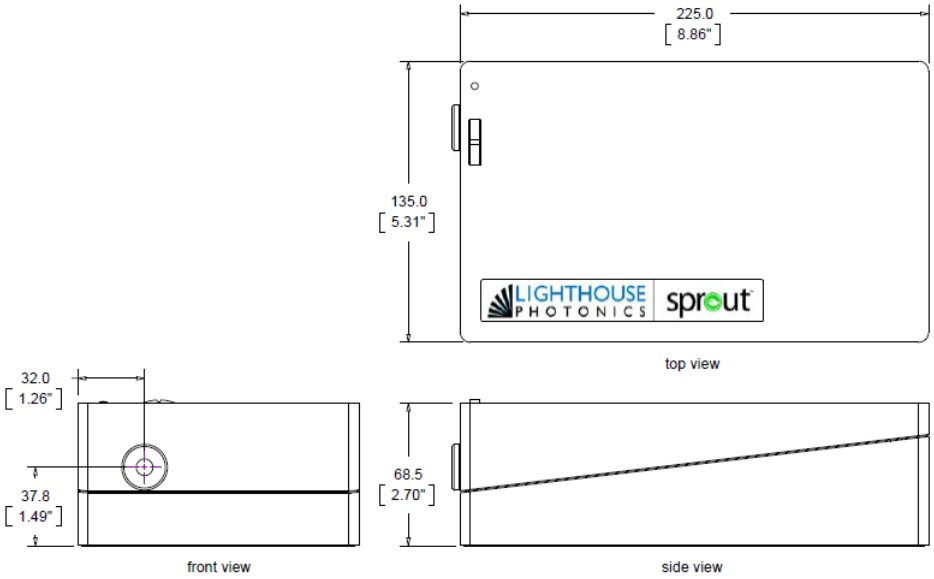


Power stability <0.2% rms
over >24 hours



Optical noise <0.02% rms
for NET™ version

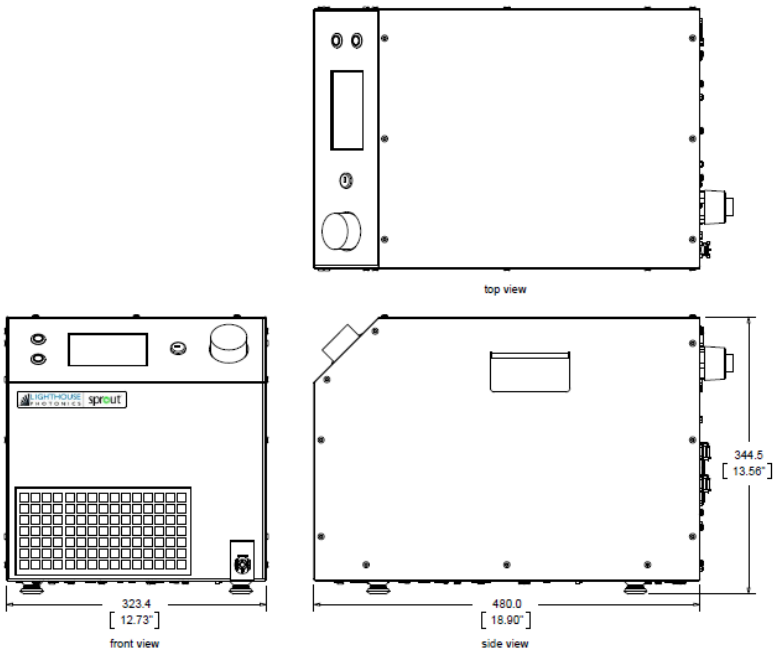
Laser Head Dimensions (all versions)



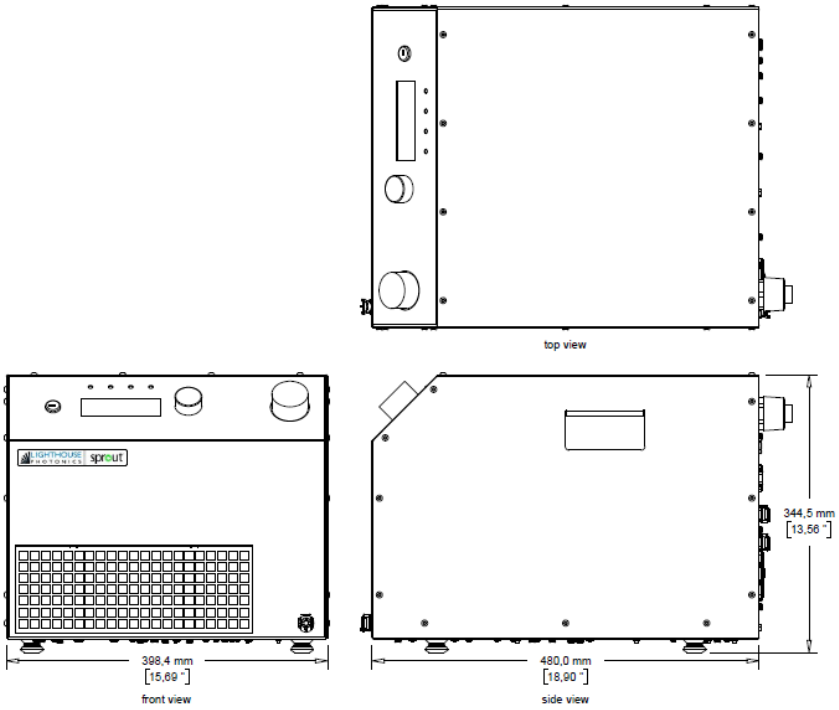
sprout™

Power Supply - Cooler Dimensions

5W, 6W, 8W, 10W,
12W and 15W versions



18W version



For more information go to: **www.lighthousephotonics.com**

Lighthouse Photonics Inc.
2151 O'Toole Avenue, Suite 50
San Jose, CA 95131 USA
phone: 408-708-7967
efax: 408-773-6240
e-mail: info@lighthousephotonics.com

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