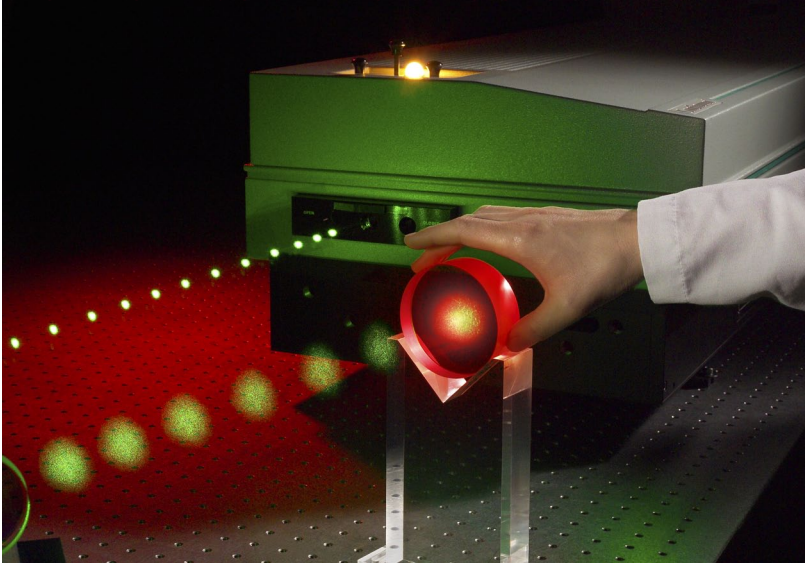


## Powerlite™ DLS Plus Series



### Powerlite DLS Plus Series - Energy and Beam Quality

The Powerlite DLS Plus Series is an ideal solution when higher levels of green energy are required for the pumping of Ti:Sapphire laser systems.

High energy, high repetition rate Ti:Sapphire systems are using multiplexed standard lasers as the amplifier pump source. When more energy is required, more lasers are needed.

The Powerlite DLS Plus 2 J and 2.5 J lasers are the best alternative to the complex relay imaging systems delivering the multitude of beams to the amplifier crystal. At 2 J and 2.5 J at 532 nm, the Powerlite DLS Plus Series is the industry leader in terms of energy and beam quality. This is made possible by the implementation of the Faraday Isolator between the oscillator and amplifier, which allows the amplifier to run at its peak performance.

For dollars per Joule, the Powerlite DLS Plus Series lasers make economic sense.

High Energy Nd:YAG  
High Energy Nd:YAG  
High Energy Nd:YAG  
High Energy Nd:YAG

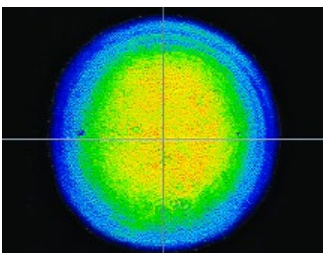
*Distributed intelligence, with microprocessors in both the laser head and power supply for more precise system control*

*Rack mounted and modular components for easier maintenance and service*

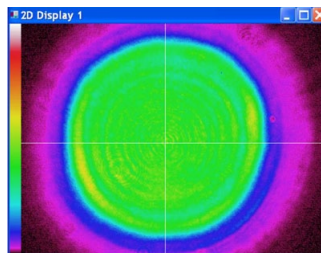
*New cooling group with active digital control for accurate temperature monitoring and improved thermal management*

*Standard, powerful Windows®-based Graphical User Interface for complete control of all system functionality*

*LabView drivers available*



Powerlite DLS Plus 2J Beam Quality - 2 J at 532 nm



Powerlite DLS Plus 2.5 J Beam Quality - 2.5 J at 532 nm

# Powerlite DLS Plus Series Specifications

Description	Plus	Plus 2 J	Plus 2.5 J
Repetition Rate (Hz)	10	10	10
Energy (mJ)			
1064 nm	3000	-	-
532 <sup>1</sup> nm	1500	2000	2500
355 <sup>2</sup> nm	800	NA	NA
266 nm	160	NA	NA
Pulsewidth <sup>3</sup> (nsec)			
1064 nm	6-9	-	-
532 nm	5-8	5-8	6-8
355 nm	4-7	NA	NA
266 nm	4-6	NA	NA
Linewidth <sup>4</sup> (cm <sup>-1</sup> )			
Standard	1	1	1
Injection Seeded, SLM	0.003	0.003	0.003
Divergence <sup>5</sup> (mrad)	0.45	0.45	0.45
Beam Pointing Stability <sup>6</sup> (±μrad)	30	30	30
Beam Diameter (mm)	12	12	12
Jitter <sup>7</sup> (±ns)			
Unseeded	0.5	0.5	0.5
Seeded	1.0	1.0	1.0
Energy Stability <sup>8</sup> (±%)			
1064 nm	2.5; 0.8	-	-
532 nm	3.0; 1.0	3.0;1.0	3.0; 1.0
355 nm	4.0; 1.3	NA	NA
266 nm	8.0; 2.6	NA	NA
Power Drift <sup>9</sup> (±%)			
1064 nm	3.0	-	-
532 nm	6.0	6.0	6.0
355 nm	6.0	NA	NA
266 nm	8.0	NA	NA
Beam Spatial Profile (Fit to Gaussian) <sup>10</sup>			
Near Field (<1m)	0.7	0.7	0.7
Far Field (∞)	0.95	0.95	0.95
Max Deviation from fitted Gaussian <sup>11</sup> (±%)			
Near Field (<1m)	40	40	40
Service Requirements			
200-240 VAC, single Φ	21A	30A	30A
Water GPM at 10-40 PSI	1-2	1-2	1-2
Polarization			
1064, 355, 266 nm	-----Horizontal-----		
532 nm	-----Vertical-----		



## Notes

- Using Type II doubler
- Using Type I doubler
- FWHM full width half max
- FWHM (1cm<sup>-1</sup> = 30 GHz)
- Full angle for 86% (1/e<sup>2</sup>)
- 99.9% shots will be <±30 μrads with ΔT<sub>room</sub> <±3°C
- With respect to external trigger
- The first value represents shot-to-shot for 99.9% of pulses, the second value represents RMS
- Average for 8 hours with ΔT±3°C
- A least squares fit to a Gaussian profile. A perfect fit would have a coefficient of 1.
- Within FWHM points near field at 1 meter.

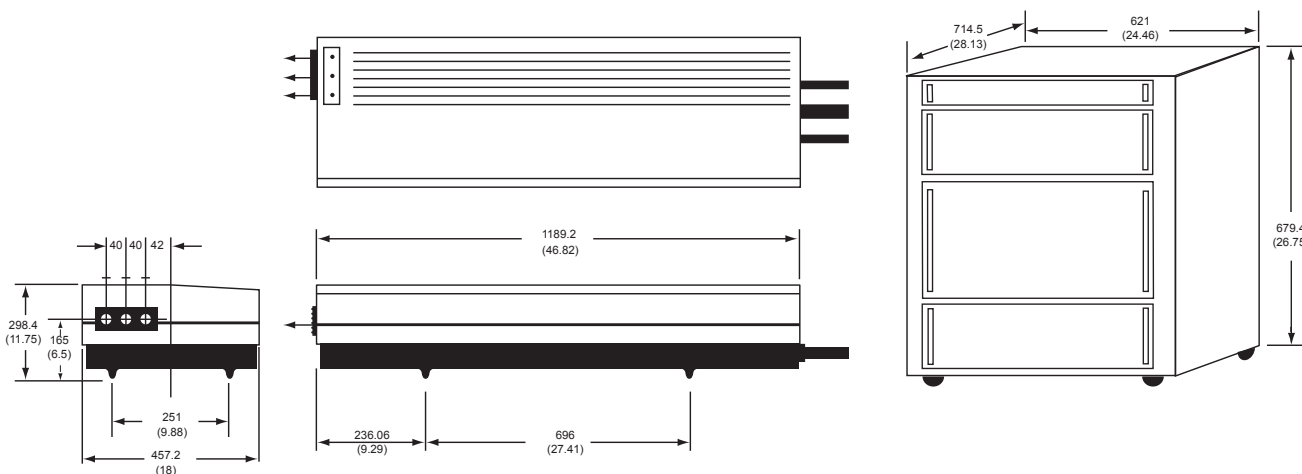
All specifications at 1064 nm unless otherwise noted. As a part of our continuous improvement program, all specifications are subject to change without notice.

# Powerlite DLS Plus Series System Requirements

Size	Optical Head (LxWxH)	1189.2 x 457.2 x 298.4 mm (46.82" x 18" x 11.75")
	Power Supply (LxWxH)	714.5 x 621 x 679.4 mm (28.13" x 24.46" x 26.75")
Water	Service	1-2 GPM (gallons/minute) at 10 - 40 PSI pressure drop
	Temperature	<22° C / 70° F (higher flow rate for higher temperature)
Electrical Service		200 - 240 VAC, single $\phi$ , 50/60 Hz
Room Temperature		18 to 30° C / 65 to 87° F
Umbilical Length		5 m (16.4 ft)

## Powerlite DLS Plus Series Physical Layout

All dimensions are in mm (inches)



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