High Energy Nd:YAG
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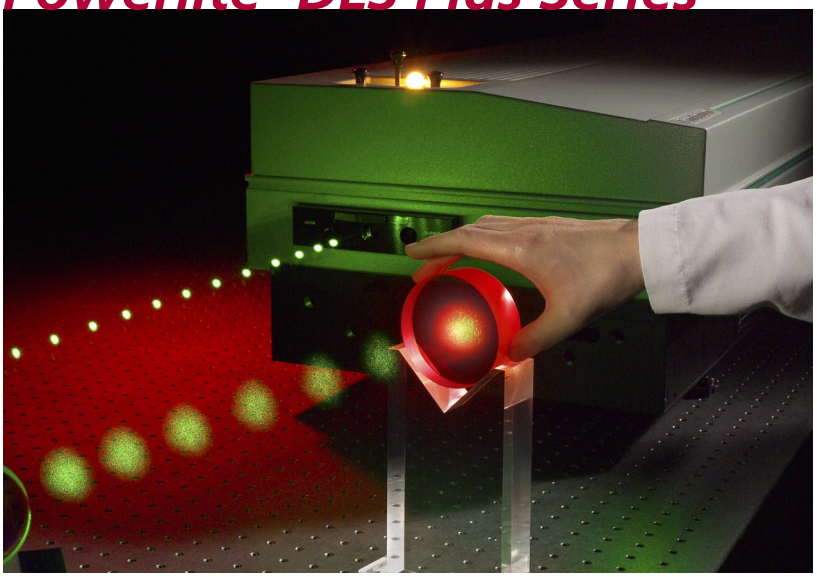
Powerlite™ DLS Plus Series



Powerlite DLS Plus Series - Energy and Beam Quality

The Powerlite 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 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 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 Plus Series lasers make economic sense.

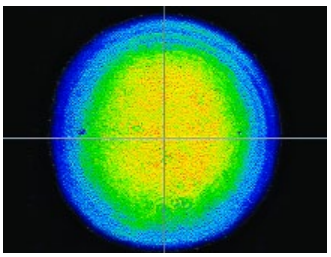
Distributed intelligence, with microprocessors in both the laser head and power supply for more precise system control

Rack mounted and modular components for easier maintenance and service

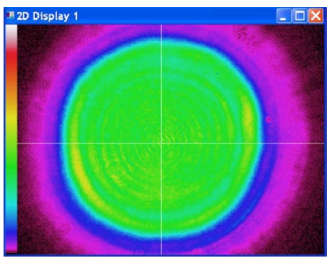
New cooling group with active digital control for acurate temperature monitoring and improved thermal management

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

LabView drivers available



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



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

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Powerlite Plus Series Specifications

Description	Plus	Plus 2 J	Plus 2.5 J
Repetition Rate (Hz)	10	10	10
Energy (mJ)			
1064 nm	3000	3500	3500
532[1] nm	1500	2000	2500
355[2] nm	800	NA	NA
266 nm	160	NA	NA
Pulsewidth[3] (nsec)			
1064 nm	5-9	5-9	5-9
532 nm	4-8	4-8	4-8
355 nm	3-7	NA	NA
266 nm	3-6	NA	NA
Linewidth[4] (cm^{-1})			
Standard	1	1	1
Injection Seeded, SLM	0.003	0.003	0.003
Divergence[5] (mrad)	0.45	0.45	0.45
Beam Pointing Stability[6] (±µrad)	30	30	30
Beam Diameter (mm)	12	12	12
Jitter[7] (±ns)			
Unseeded	0.5	0.5	0.5
Seeded	1.0	1.0	1.0
Energy Stability[8] (±%)			
1064 nm	2.5; 0.8	2.5; 0.8	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[9] (±%)			
1064 nm	3.0	3.0	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)[10]			
Near Field (<1m)	0.7	0.7	0.7
Far Field (∞)	0.95	0.95	0.95
Max Deviation from fitted Gaussian[11] (±%)			
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

1. Using Type II doubler
2. Using Type I doubler
3. FWHM full width half max
4. FWHM ($1 cm^{-1}$ = 30 GHz)
5. Full angle for 86% ($1/e^2$)
6. 99.9% shots will be <±30 µrads with ΔT_{room} <±3°C
7. With respect to external trigger
8. The first value represents shot-to-shot for 99.9% of pulses, the second value represents RMS
9. Average for 8 hours with ΔT±3°C
10. A least squares fit to a Gaussian profile. A perfect fit would have a coeffficient of 1.
11. 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.

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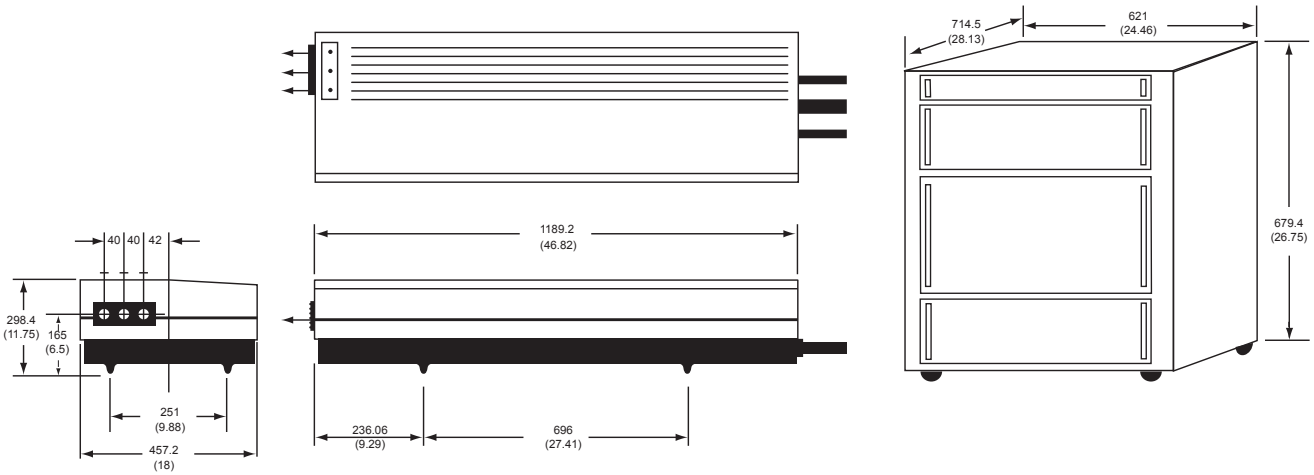
Powerlite Plus Series System Requirements

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 ϕ, 50/60 Hz
Room Temperature		18 to 30° C / 65 to 87° F
Umbilical Length		5 m (16.4 ft)

Powerlite Plus Series Physical Layout

All dimensions are in mm (inches)



Continuum
140 Baytech Drive, San Jose, CA
Tel (408) 727-3240
www.continuumlasers.com

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