

DXG Long Pulse Series

DX Nanosecond Lasers

Long Pulsed, Nd: YAG, TEM₀₀, Q-Switched Lasers

The DXG Series Long Pulse Nd:YAG lasers offer a robust, industrial-grade solution for high-precision material processing. With nanosecond pulse durations and high pulse energies, these lasers excel in applications such as diamond cutting, Silicon carbide annealing, and thermal processing, where controlled heat input minimizes thermal damage while ensuring high-quality results. This combination makes the DXG Series particularly suited for demanding industries like aerospace, electronics, and advanced manufacturing.

Designed in a compact, water-cooled format, the DXG lasers are optimized for seamless OEM integration. Comprehensive pulse frequency and energy controls allow users to tailor the laser output to specific application needs. By bridging the gap between short-pulse and continuous-wave laser technologies, the DXG Series addresses the growing demand for precision, reliability, and versatility in modern material processing.



APPLICATIONS

- SiC Annealing
- Diamond Cutting
- PCB & Polymer Cutting & Drilling
- Selective Annealing and Doping
- Laser Cleaning
- Resistor Trimming
- LIDAR & Laser Ranging

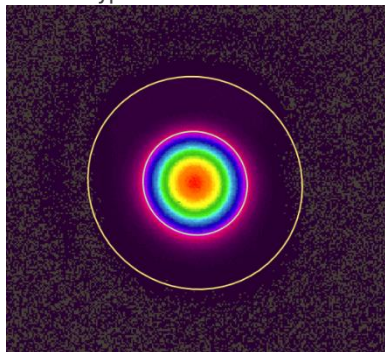
FEATURES

- Up to ~3mJ Pulse Energy at 10 kHz
- True TEM₀₀ Output
- Long Pulse Widths [~80ns]
- Robust & Compact Form Factor
- Dynamic **P**ulse **E**nergy **C**ontrol - **PEC**
- **P**osition **S**ynchronized **O**utput - **PSO**
- Power Monitoring and Self-Calibration

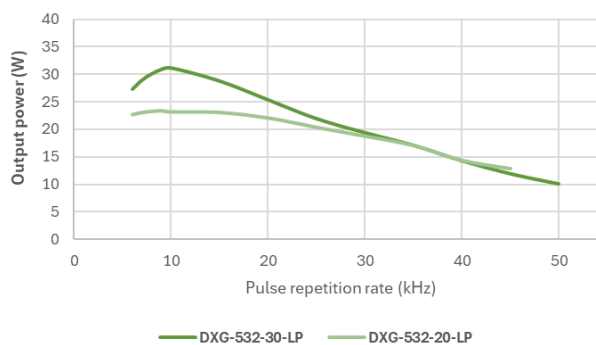
Specifications – DXG LP Series		
	DXG-532-20-LP	DXG-532-30-LP
Wavelength (nm)	532nm	
Average Power (W) @9kHz	20	30
Pulse Energy (mJ) @9kHz	~2	~3
Pulse Width (ns) @9kHz	~80	
Pulse repetition rate ¹	Single shot to 50kHz	
Pulse-to-pulse stability (% RMS) ²	<3	
Long-term power stability (% RMS) ³	<2	
Beam spatial mode & M ²	TEM ₀₀ - M ² <1.2	
Beam divergence (nominal) (mrad)	~ 3	
Beam diameter at exit (nominal) (mm)	~ 1	
Beam roundness (%)	> 90	
Beam pointing stability (μrad)	<25	
Polarization ratio	Vertical; >100:1	
	Operational Specifications and Characteristics	
Interface	RS232, Ethernet, Software GUI, External TTL Triggering	
Warm-up time	<15 minutes from standby, <30 minutes from cold start	
Electrical requirement	100-240 V AC -35 V DC, 15 A [PSU Included]	
Line frequency (Hz)	50-60	
Power consumption (W)	<400	
Dimensions	22.5 x 7.5 x 3.75in [571.5 x 190.5 x 95.3mm]	
Weight	~50lbs [~22.6kg]	
	Environmental Requirements	
Ambient temperature ⁴	Ambient 15°C to 30°C (59°F to 86°F) Operating Range	
	Relative humidity 0% to 80% max, non-condensing	
Storage conditions	-10°C to 40°C; sea level to 12000 m	
	0% to 80% relative Humidity, non-condensing	
Cooling system	Water Cooled	

[1.] Lower pulse repetition rates (down to < 7 kHz) performance achieved by pulse energy capping. [2.] Measured at ambient temperature ± 2°C. [3.] Measured over 8 hours ± 1°C. [4.] For operation of the laser outside of the specified temperature range, contact us.

Typical Beam Profile

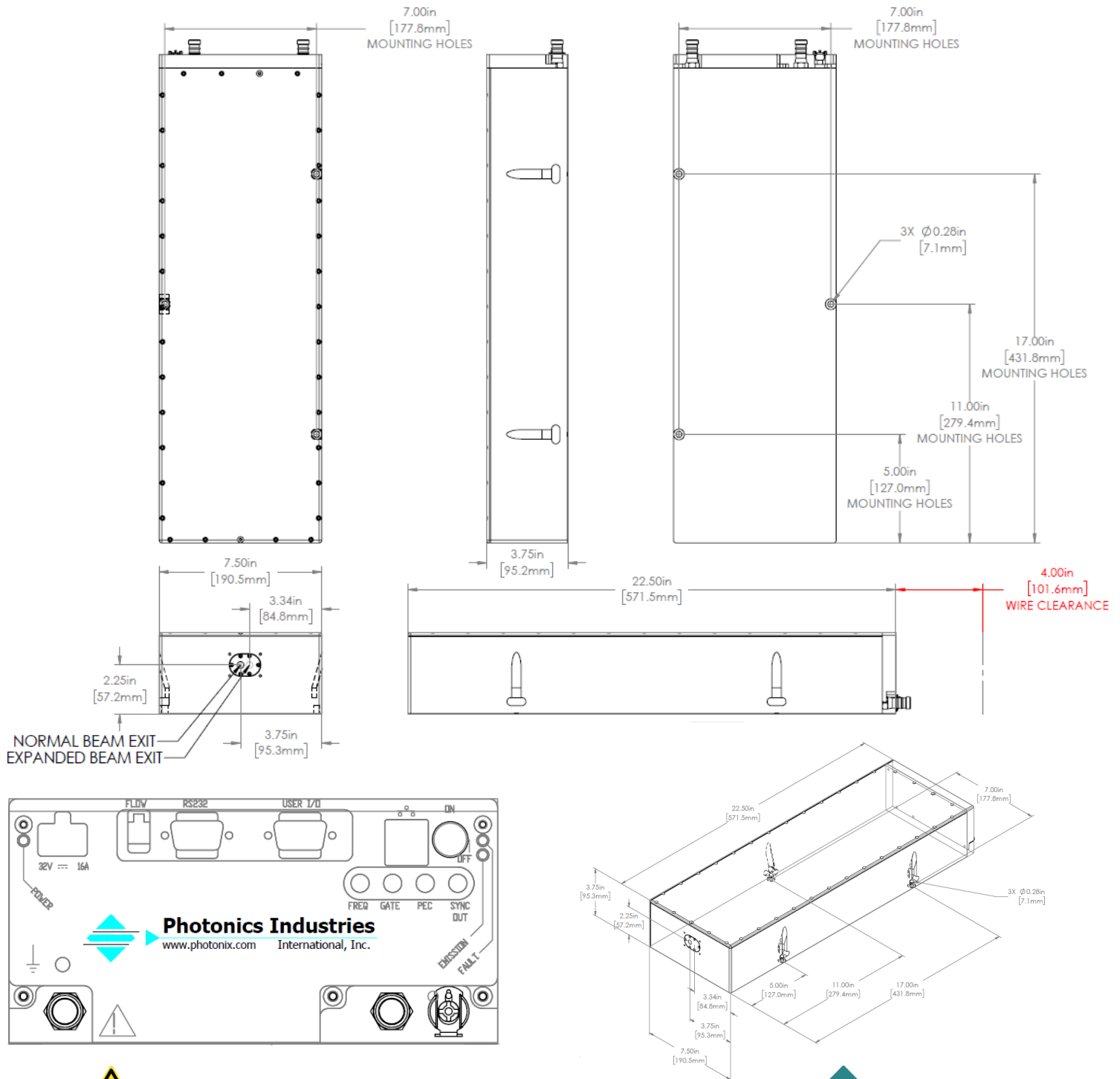


Power vs. PRF



Dimensional Drawings

DXG-532-20-LP, DXG-532-30-LP



Our ongoing policy is to improve the design and specification of our products. The information provided is non-binding.

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Photonics Industries International Inc. is the pioneer of intracavity harmonic lasers and is at the forefront of developing, manufacturing, and marketing a wide range of nanosecond, sub-nanosecond, picosecond, and femtosecond lasers for the industrial, scientific, defense and medical industries.

For more information www.photonix.com

