DXG Water-Cooled Series

DX Nanosecond Lasers

Solid State DPSS, TEM_{00}, Q-Switched Lasers

The DXG Series Lasers are Nd: YAG nanosecond Laser Series, offering a compact, industrial-grade solution with high pulse energy and fast repetition rates. The combination of short pulse duration and high pulse energy in the 5 to 15kHz domain make the DXG Series ideal for demanding applications requiring high material removal rates with precision beam quality.

Available in a compact, water-cooled format, the DXG lasers provide complete flexibility for OEM integration. A full suite of pulse frequency and pulse energy controls also ensures that the laser output is tailored precisely to a variety of applications

APPLICATIONS

- Marking & Scribing
- LIBS (Laser-Induced Breakdown Spectroscopy)
- PCB & Polymer Cutting & Drilling
- Selective Annealing and Doping
- Laser Cleaning
- Photolithography
- Resistor Trimming
- LIDAR & Laser Ranging

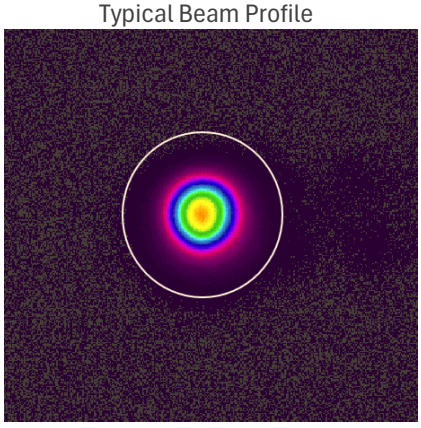
FEATURES

- Up to ~4mJ Pulse Energy at 10 kHz
- True TEM_{00} Output
- Short Pulse Widths
- Robust & Compact Form Factor
- Dynamic **P**ulse **E**nergy **C**ontrol - **PEC**
- **P**osition **S**ynchronized **O**utput - **PSO**
- Power Monitoring and Self-Calibration

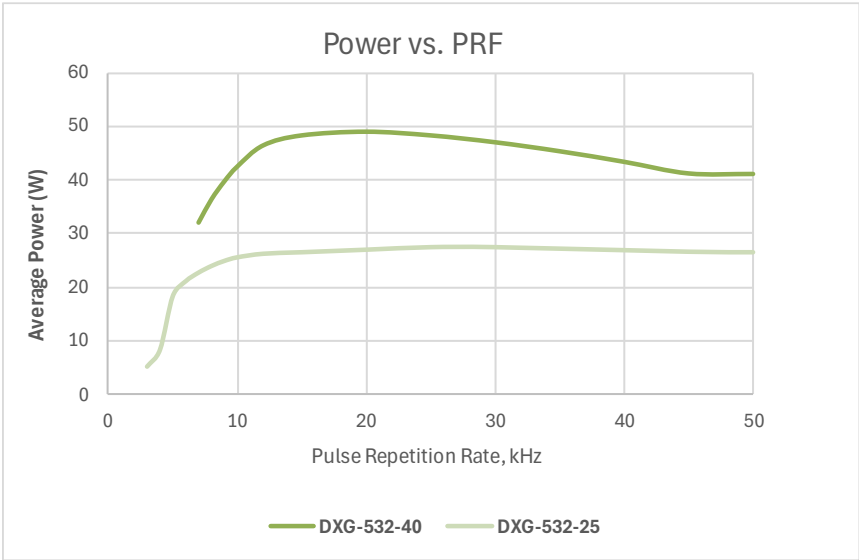
Specifications – **DXG Series**		
	DXG-532-25	**DXG-532-40**
Wavelength	532nm	
Average Power @10kHz	25W	40W
Pulse Energy @10kHz	~2.5mJ	~4mJ
Pulse Width @10kHz	~25ns	
Pulse repetition rate [1]	Single shot to 50kHz	
Pulse-to-pulse stability [2]	<2% rms	
Long-term power stability [3]	<2% rms	
Beam spatial mode & M^2	TEM_{00} - M^2 <1.2	
Beam divergence (nominal)	~ 2.5 mrad	
Beam diameter at exit (nominal)	~ 0.8mm	
Beam roundness	> 90%	
Beam pointing stability	<25 urad	
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	50-60 Hz	
Power consumption	<240W	
Dimensions	16 x 7.5 x 3.75in	
Weight	~29 lbs [~13.2kg]	
	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 < 1 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



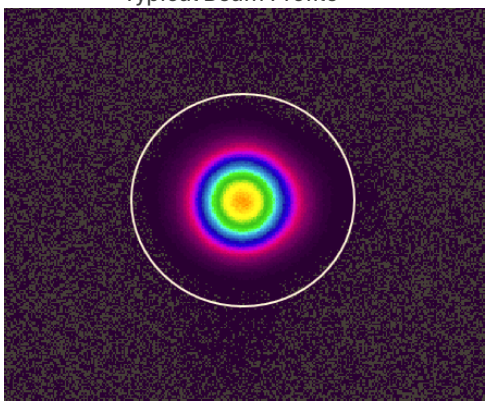
DXG-532-25



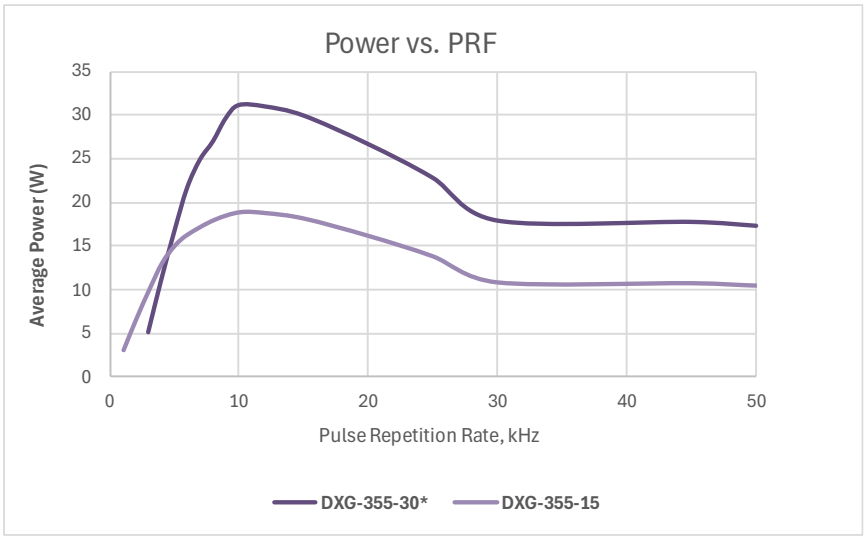
Specifications – **DXG Series**		
	DXG-355-15	**DXG-355-30***
Wavelength	355nm	
Average Power @10kHz	15W	30W
Pulse Energy @10kHz	~1.5mJ	~3mJ
Pulse Width @10kHz	~20ns	
Pulse repetition rate [1]	Single shot to 50kHz	
Pulse-to-pulse stability [2]	<2% rms	
Long-term power stability [3]	<2% rms	
Beam spatial mode & M^2	TEM_{00} - M^2 <1.2	
Beam divergence (nominal)	~ 2.5 mrad	
Beam diameter[4] at exit (nominal)	~0.6mm	
Beam roundness	> 90%	
Beam pointing stability	<25 urad	
Polarization ratio	Horizontal; > 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	50-60 Hz	
Power consumption	<240W	
Dimensions	16 x 7.5 x 3.75in	
Weight	~29 lbs [~13.2kg]	
	Environmental Requirements	
Ambient temperature [5]	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 < 1 kHz) performance achieved by pulse energy capping. [2.] Measured at ambient temperature ± 2°C. [3.] Measured over 8 hours ± 1°C.
[4.] Larger beam diameters available on request, contact us. [5.] For operation of the laser outside of the specified temperature range, contact us.

Typical Beam Profile

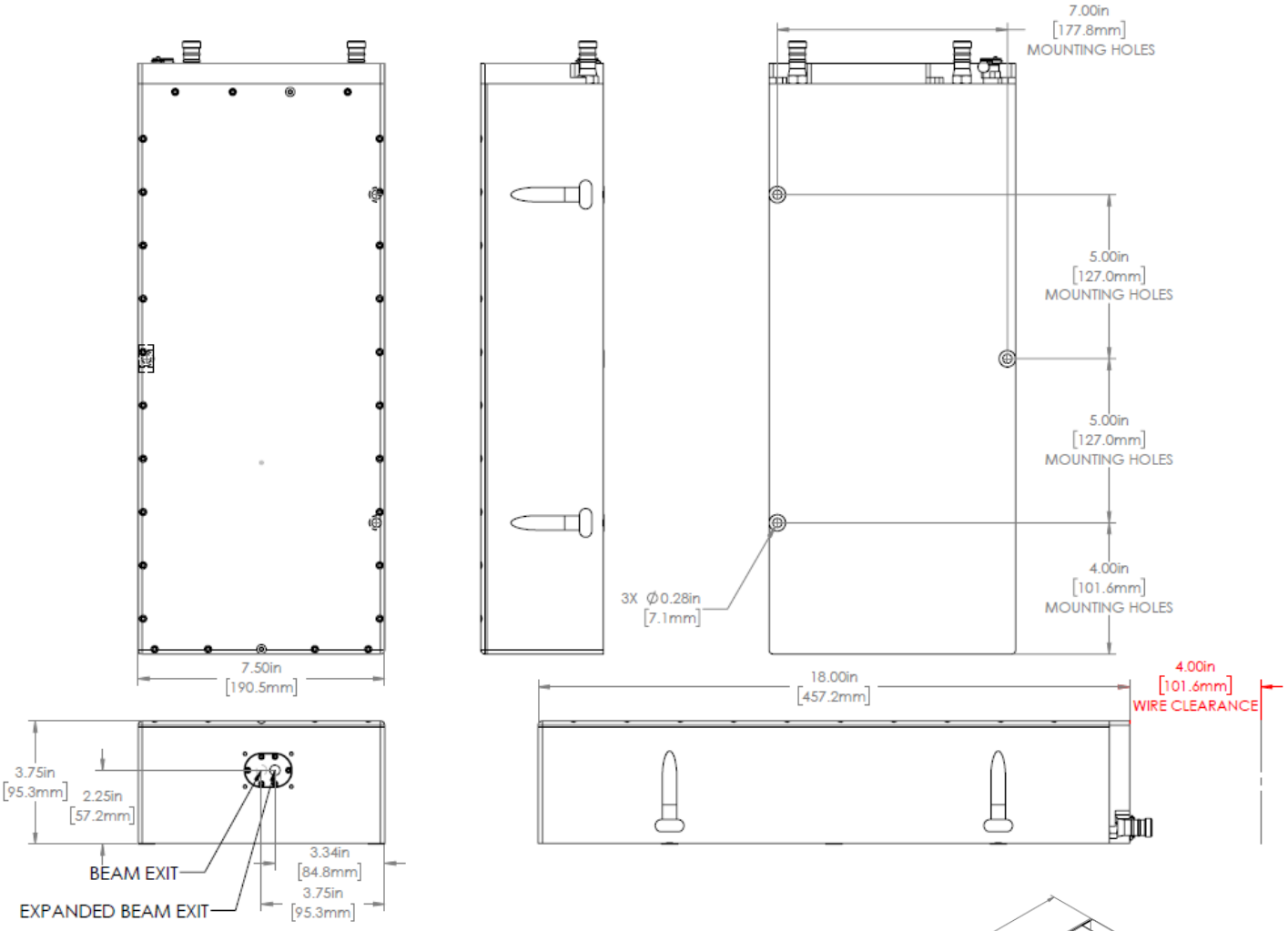


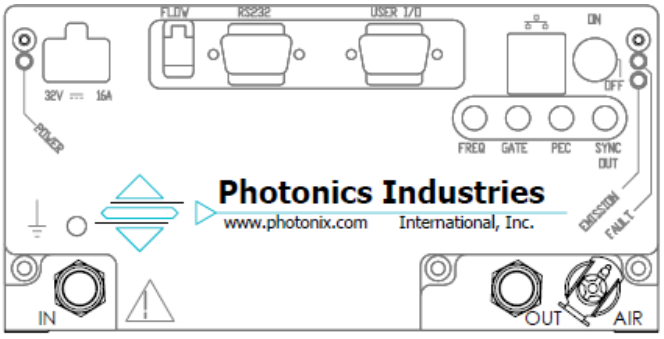
DXG-355-15

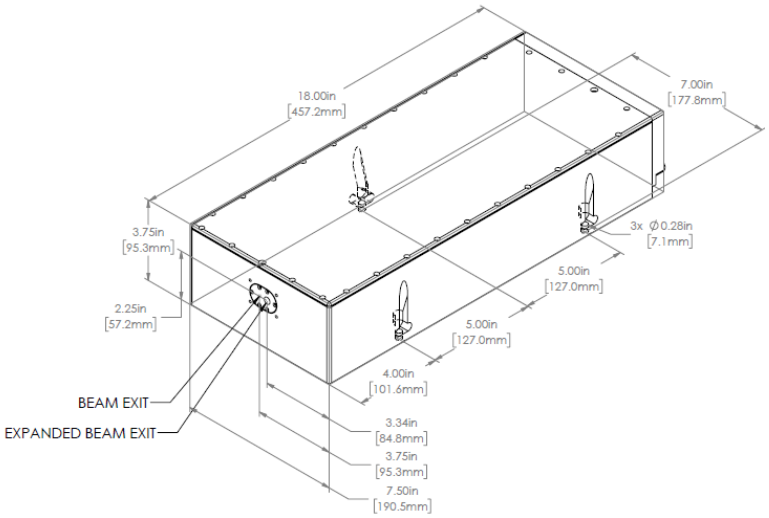


Dimensional Drawings

DXG-532-25/40
DXG-355-15/30







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

RoHS Compliant