DX Air Cooled Series

DX Nanosecond Lasers

DPSS, TEM_{00}, Q-Switched Lasers

With over 26 years' experience and tens of thousands delivered since 1998, our diode pumped DX Air-Cooled Series nanosecond DPSS lasers deliver unmatched performance in a compact, air-cooled design. Engineered to lead the market, these lasers provide up to 10 W UV and 20 W green power, while the ultra-compact models offer 1 W UV and 2 W green. With their small footprint and efficient air-cooling system, the DX Air-Cooled Series seamlessly integrates into industrial micro processing systems, offering the perfect balance of power, precision, and adaptability for even the most demanding applications.

This legacy of proven reliability and innovation makes the DX Series ideal for critical applications such as micron-precision marking, solar cell processing, and more. If you're looking for a laser solution that combines cutting-edge performance with a compact, dependable design, the DX Air-Cooled Series is your go-to choice.

APPLICATIONS

- Marking & Scribing
- Silicon, PERC and Solar Cell
- PCB & Polymer Cutting & Drilling
- Selective Annealing and Doping
- Copper & Gold Sintering
- Gold & ITO Scribing
- Resistor Trimming
- LIDAR & Laser Ranging

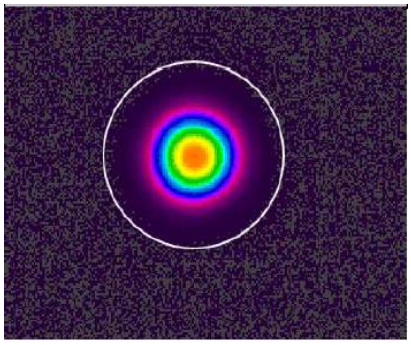
FEATURES

- Up to ~400uJ Pulse Energy at 50 kHz
- True TEM_{00} Output
- Short Pulse Widths
- Air-cooled with Base Plate Cooled Option
- Robust & Compact Form Factor
- Dynamic **P**ulse **E**nergy **C**ontrol - **PEC**
- **P**osition **S**ynchronized **O**utput - **PSO**
- Power Monitoring and Self-Calibration

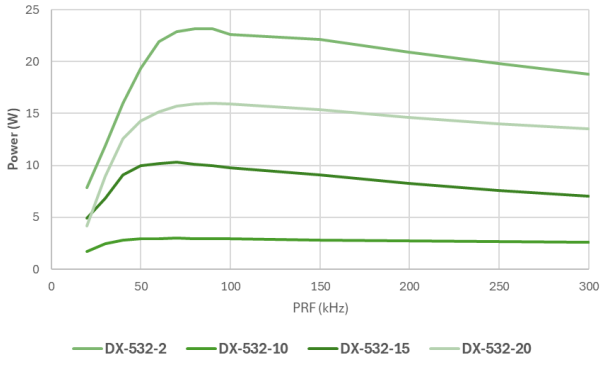
Specifications – **DX-AC Series**				
	DX-532-2	**DX-532-10**	**DX-532-15**	**DX-532-20**
Wavelength (nm)	532			
Average Power (W)	2 @ 50kHz	10 @ 50kHz	15 @ 50kHz	20 @ 70kHz
Pulse Energy (µJ) @ 50kHz	~40	~200	~300	~400
Pulse Width (ns) @ 50kHz	~10-15			
Pulse repetition rate [1]	Single shot to 300 kHz			
Pulse-to-pulse stability (% RMS) [2]	<2			
Long-term power stability [3]	<2			
Beam spatial mode & M^2	TEM_{00} - M^2 <1.1			
Beam divergence (nominal) (mrad)	~ 2.5			~4
Beam diameter at exit (nominal) (mm)	~ 0.5			
Beam roundness	~90%			
Beam pointing stability (µrad)	<20			
Polarization ratio	Vertical; >100:1			
	Operational Specifications and Characteristics			
Interface	RS232, Ethernet, Software GUI, External TTL Triggering			
Warm-up time	< 5 minutes from standby, <10 minutes from cold start			
Electrical requirement	100-240 V AC - 15 V DC, 13.4 A [PSU Included]			
Line frequency (Hz)	50-60			
Power consumption (W)	~50	~130		
Dimensions	9 x 5 x 3.38 in [228.6 x 127 x 85.9mm]	11x5x5 in - [279.4x127x127 mm]		
Weight	~10 lbs [~4.5 kg]	~15.5 lbs [~7 kg]		
	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	Air-Cooled / Base Plate Cooled [5]			

[1.] Lower pulse repetition rates (down to < 30 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. [5.] For water-cooled heatsink option, contact us.

Typical Beam Profile



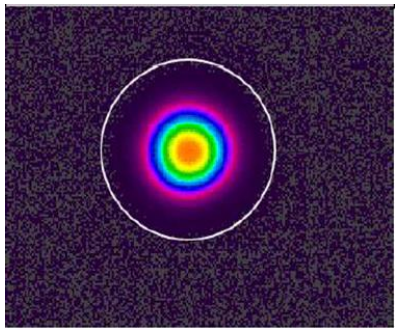
Power Vs. PRF



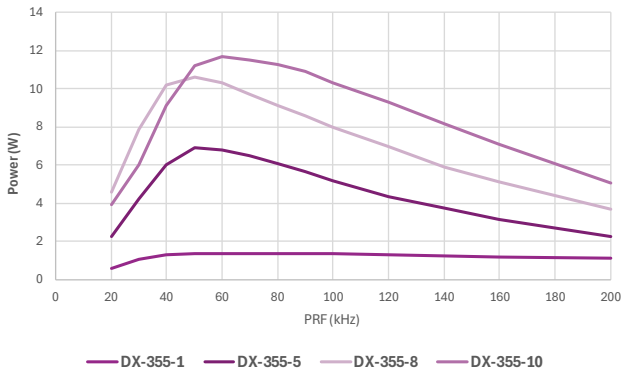
Specifications – **DX-AC Series**				
	DX-355-1	**DX-355-5**	**DX-355-8**	**DX-355-10**
Wavelength (nm)	355			
Average Power (W) @ 50kHz	1W	5	8W	10W
Pulse Energy (µJ) @ 50kHz	~20	~100	~160	~200
Pulse Width (ns) @ 50kHz	~10-15			
Pulse repetition rate [1]	Single shot to 200 kHz			
Pulse-to-pulse stability (% RMS) [2]	<2			
Long-term power stability [3]	<2			
Beam spatial mode & M^2	TEM_{00} - M^2 <1.1			
Beam divergence (nominal) (mrad)	~ 2.5			
Beam diameter at exit (nominal) (mm)	~ 0.3	~ 0.4		
Beam roundness	~90%			
Beam pointing stability (µrad)	<25			
Polarization ratio	Horizontal; >100:1			
	Operational Specifications and Characteristics			
Interface	RS232, Ethernet, Software GUI, External TTL Triggering			
Warm-up time	< 5 minutes from standby, <10 minutes from cold start			
Electrical requirement	100-240 V AC - 15 V DC, 13.4 A [PSU Included]			
Line frequency (Hz)	50-60			
Power consumption (W)	~50	~130		
Dimensions	9 x 5 x 3.38 in [228.6 x 127 x 85.9mm]	11x5x5 in - [279.4x127x127 mm]		
Weight	~10 lbs [~4.5 kg]	~15.5 lbs [~7 kg]		
	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	Air-Cooled / Base Plate Cooled [3]			

[1.] Lower pulse repetition rates (down to < 30 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. [5.] For water-cooled heatsink option, contact us.

Typical Beam Profile

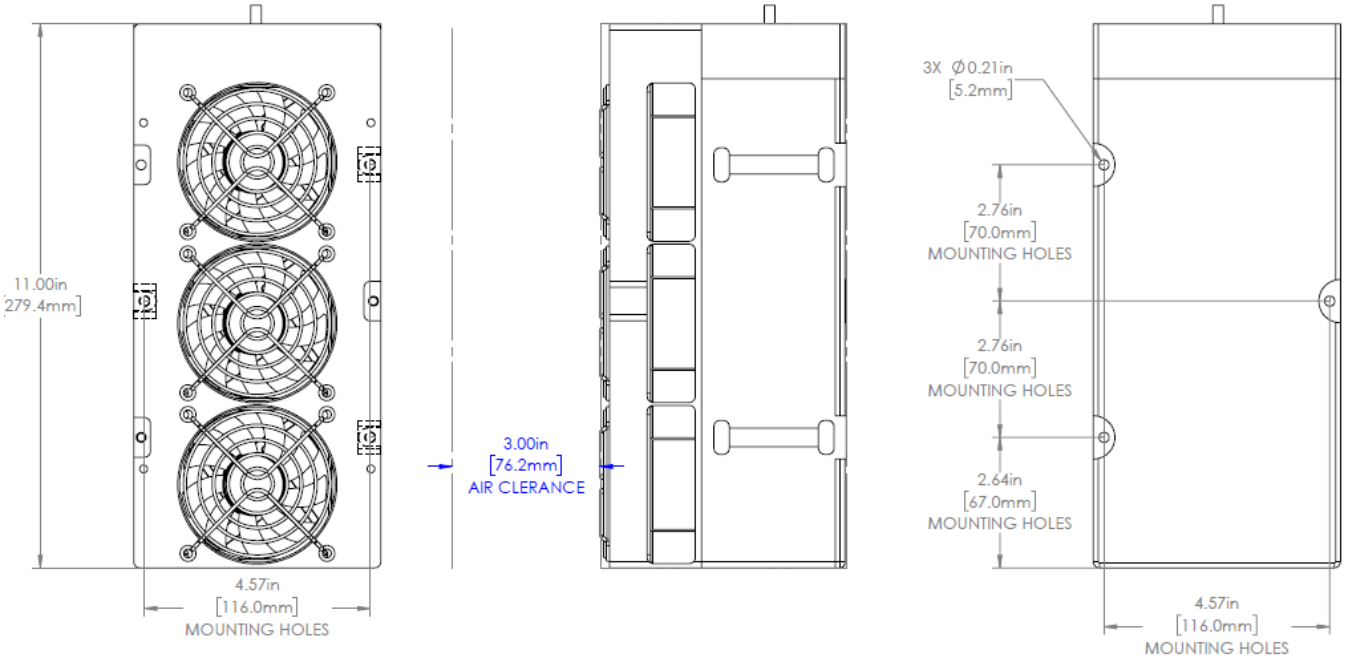


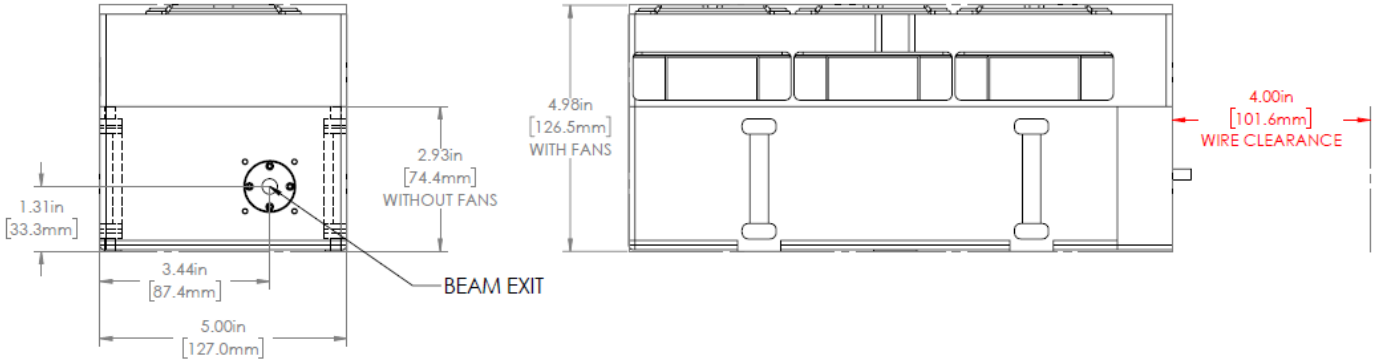
Power Vs. PRF

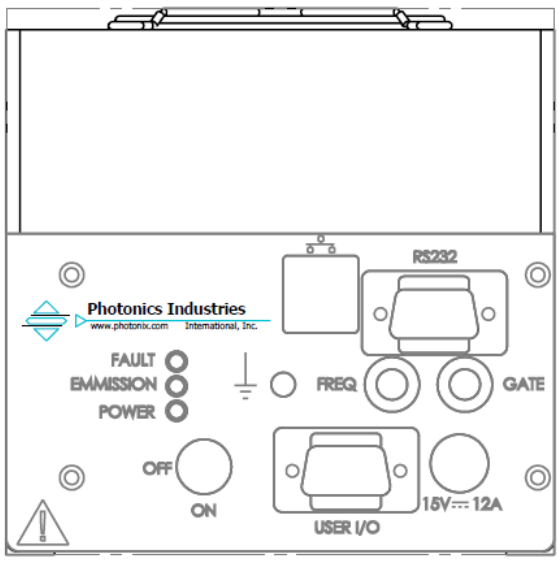


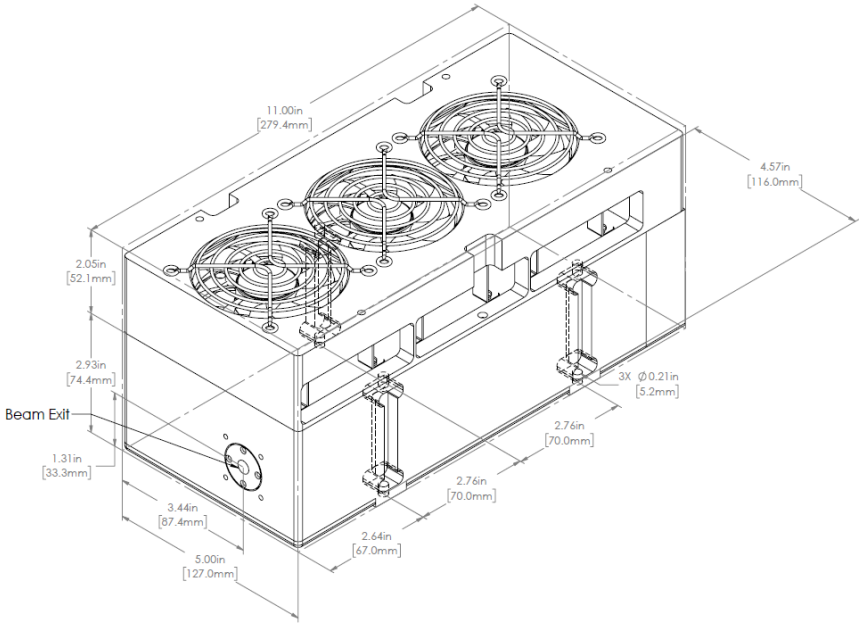
Dimensional Drawings

DX-532-10, DX-532-15, DX-532-20, DX-355-5, DX-355-8, DX-355-10



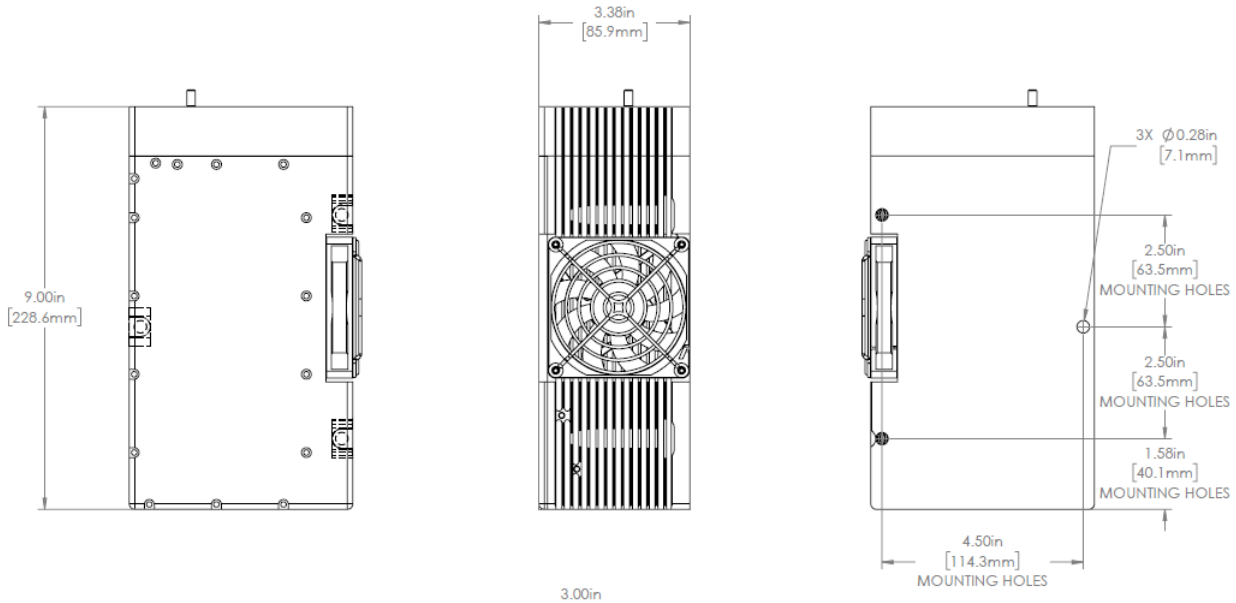


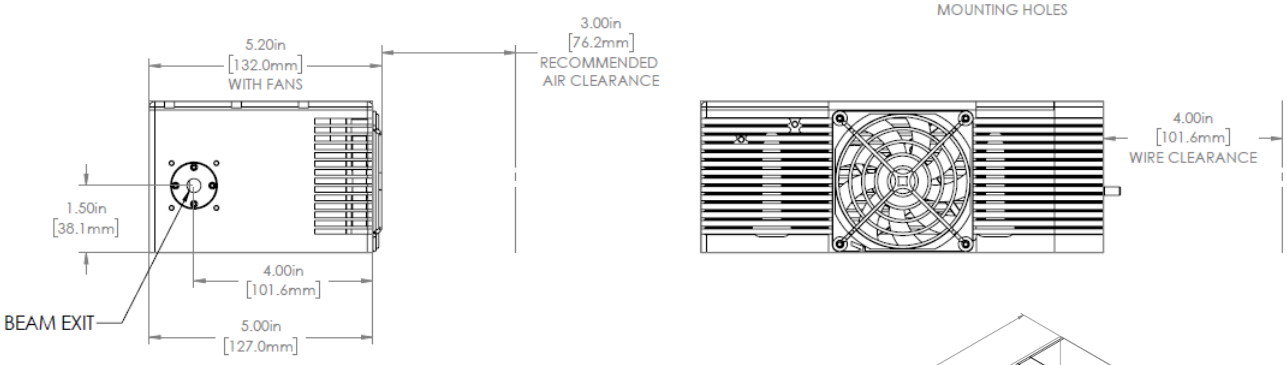


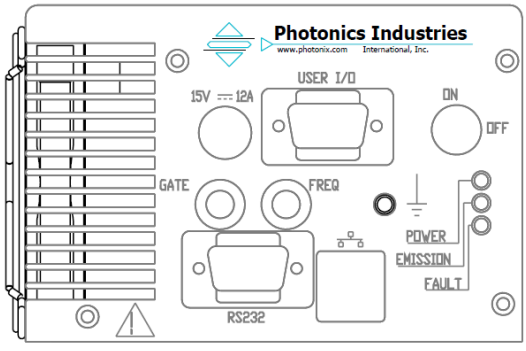


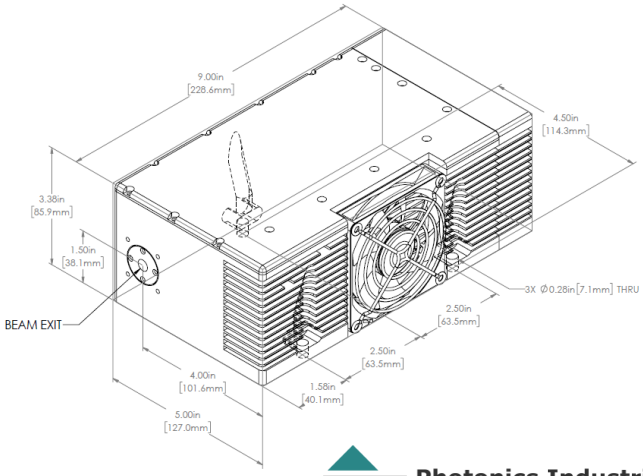
Dimensional Drawings

DX-532-2, DX-355-1









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

Photonics Industries International, Inc.

Headquarters: 1800 Ocean Ave, Ronkonkoma, New York 11779, United States

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

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