

SN Series

SN Sub-Nanosecond Lasers

DPSS, TEM₀₀, Pulse Picked Lasers

Photronics Industries' SN Series sub-nanosecond lasers redefine precision and power in a compact, all-in-one design. With industry-leading high pulse energies and adjustable pulse widths from 5 nanoseconds to an ultra-fast 500 picoseconds, these lasers deliver unparalleled performance for your most demanding applications.

Unlock the potential of the SN Series in diverse applications, from advanced micro processing to cutting-edge scientific innovations like airborne laser ranging (LIDAR). Achieve faster, more accurate results with high-energy pulses tailored to your needs. Elevate your processes with the SN Series—where performance meets possibility.



APPLICATIONS

- Laser Scribing and Texturing
- Laser-Induced Fluorescence and Imaging (LIF)
- PCB & Polymer Cutting & Drilling
- Glass Cutting and Shaping
- Time-Resolved Spectroscopy and Diagnostics
- High-Precision Marking
- Resistor Trimming
- Medical Micro structuring

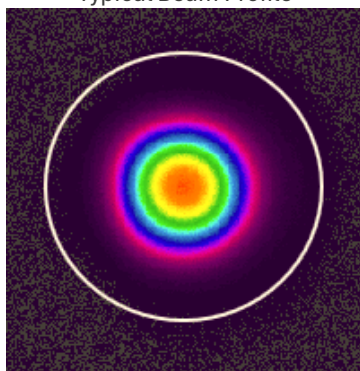
FEATURES

- Up to ~1.5mJ Pulse Energy at 100kHz
- True TEM₀₀ Output
- Short Pulse Widths
- Air-cooled with Radiator Cooled Option
- Robust & Compact Form Factor
- Dynamic **Pulse Energy Control - PEC**
- Power Monitoring and Self-Calibration

Specifications – SN Series				
	SN-532-5	SN-532-25*	SN-532-70*	SN-532-100 *
Wavelength	532nm			
Max Average Power ¹	5W	25W	70W	100W
Max Pulse Energy @ 100kHz	~50uJ	~250μJ	~700μJ	~1mJ
Pulse Width ³	100ps to 5ns			
Pulse repetition rate ⁴	Single shot to 2MHz			
Pulse-to-pulse stability ⁵	<2% rms			
Long-term power stability ²	≤1% rms			
Beam spatial mode & M ²	TEM ₀₀ - M ² <1.2			
Beam divergence (nominal)	<2 mrad			
Beam bore sight accuracy	≤ 1 mm lateral (to specified exit location), ≤ 5 mrad angular (to specified exit direction)			
Beam roundness	>90%			
Beam pointing stability	<20 μrad			
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			
Line frequency	50-60 Hz			
Power consumption ⁶	~200W	~500W	~900W	~1300W
Dimensions ⁷	18 x 5 x 8.90in	16 x 8.5 x 4.5 in.	20 x 8.5 x 4.5 in.	20 x 10 x 4.5 in.
Weight	35lbs [~15.8kg]	~38lbs	~47lbs	~57lbs
	Environmental Requirements			
Ambient temperature ²	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	Water-Cooled		

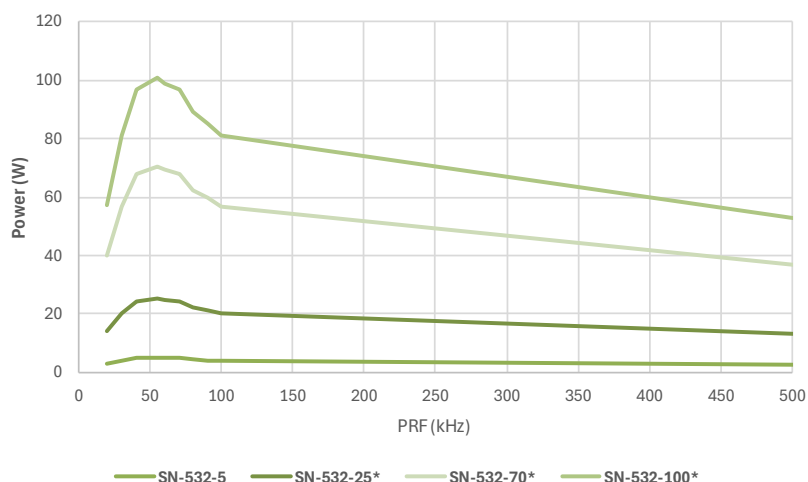
[1.] Standard power optimization is at 1 MHz. Output power is specifiable at different pulse repetition rates. Pulse energy varies depending on the repetition rate optimization and specified pulse width. > 3 mJ single pulse energy optimization is available. [2.] Measured over 8 hours ± 1°C. [3.] Specifiable pulse width. Pulse energy varies depending on the specified pulse width. [4.] Lower pulse repetition rate operation, down to single shot, achieved by utilizing PSO or POD features. Higher pulse repetition rates are available [5.] Measured at ambient temperature ± 2°C. [6.] Power consumption data does not include an external chiller's power consumption. [7.] SN Series sub-nanosecond lasers are all-in-one (AIO) and do not require a separate controller or utility module. All connections for operation and control of the laser can be found on the back panel of the AIO laser. [8.] 60V/20A and 32V/28A two connections between laser head and PSU. *Illustration includes some simulated data for conceptual visualization.

Typical Beam Profile



SN-532-5

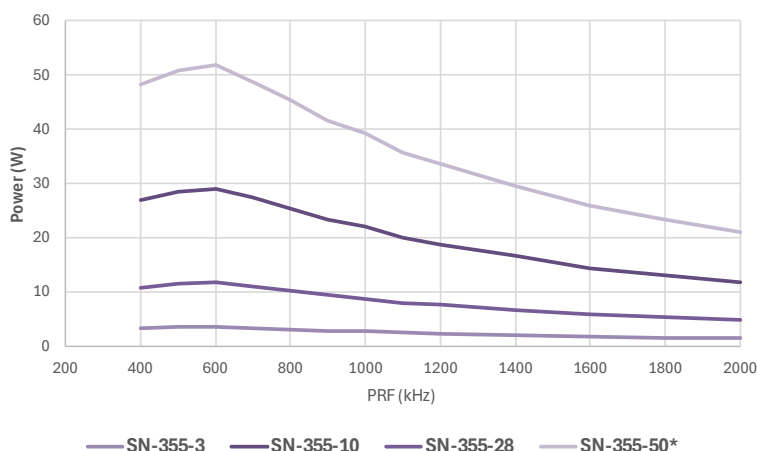
Power Vs. PRF



Specifications – SN Series				
	SN-355-3	SN-355-10*	SN-355-28*	SN-355-50*
Wavelength	355nm			
Max Average Power ¹	3W	10W	28W	50W
Max Pulse Energy @ 100kHz	~30μJ	~100μJ	~280μJ	~500μJ
Pulse Width ³	100ps – 5ns			
Pulse repetition rate ⁴	Single shot to 2MHz			
Pulse-to-pulse stability ⁵	<2% rms			
Long-term power stability ²	≤1% rms			
Beam spatial mode & M ²	TEM ₀₀ - M ² <1.2			
Beam divergence (nominal)	~ 2 mrad			
Beam bore sight accuracy	≤ 1 mm lateral (to specified exit location), ≤ 5 mrad angular (to specified exit direction)			
Beam roundness	>90%			
Beam pointing stability	<25 μrad			
Polarization ratio	Vertical; >100:1		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			
Line frequency	50-60 Hz			
Power consumption ⁶	~200W	~500W	~900W	~1300W
Dimensions ⁷	18 x 5 x 8.90in	16 x 8.5 x 4.5 in.	25.5 x 10 x 4.5in	
Weight	35lbs [~15.8kg]	~38lbs	~71lbs	
	Environmental Requirements			
Ambient temperature ²	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	Water-Cooled		

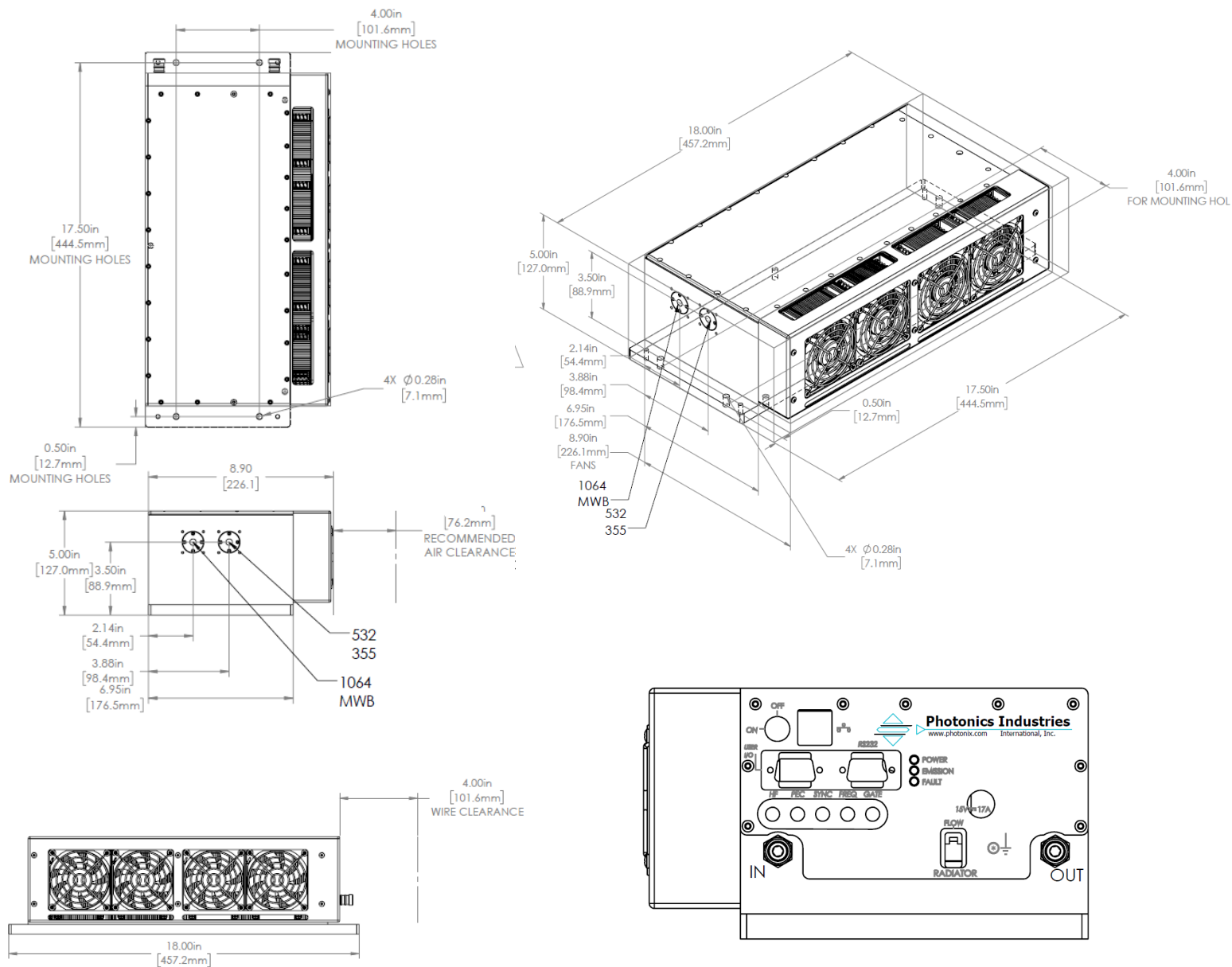
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Power Vs. PRF



Dimensional Drawings

SN-532-5, SN-355-3



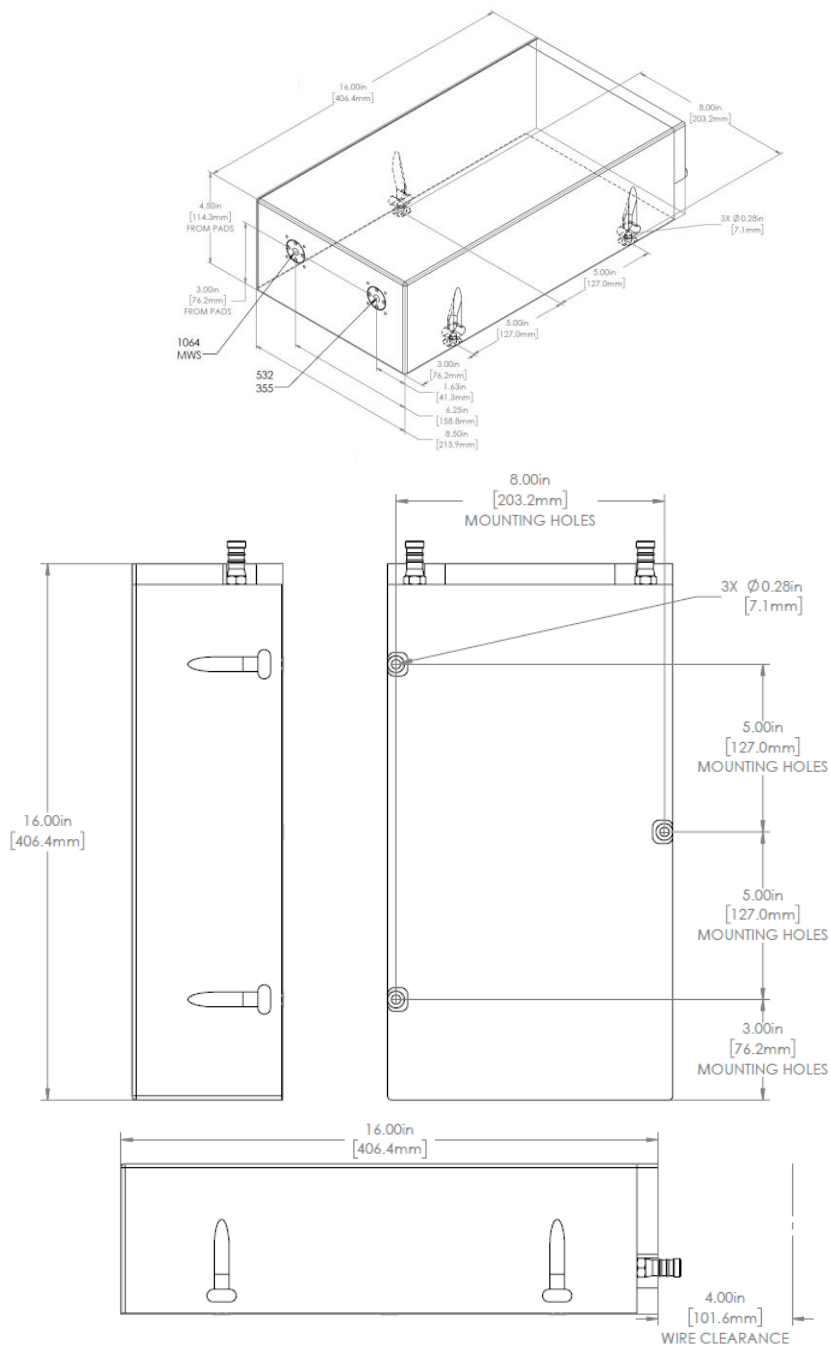
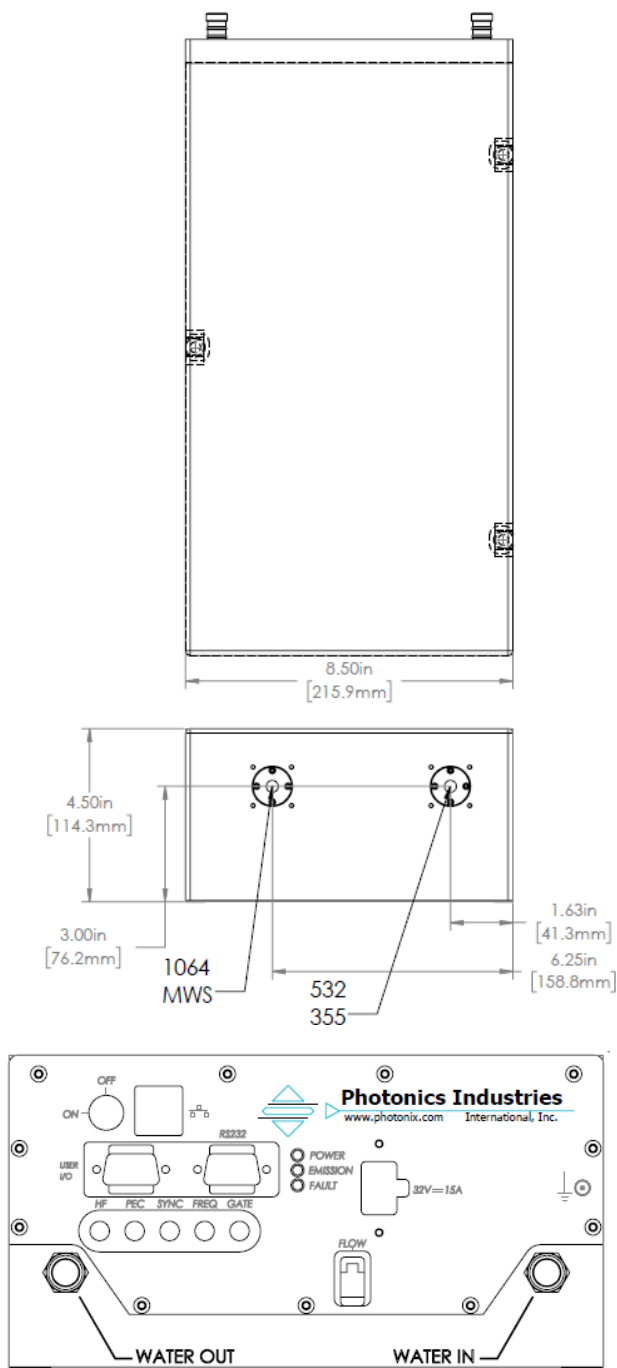
Options:

Multi-wavelength	Multi-wavelength output, blended or selectable				[MWB], [MWS]
Deep Ultraviolet (DUV)	266nm Wavelength available upon request				[SN-266]
Rad-cooling™	Rad-cooling™ system instead of air-cooling fans				[RC]
Format	SN-1064/532/355	-	[Power level]	-	[xxx]

Dimensional Drawings

SN-532-25, SN-355-10

*The SN1 model depicted is a future release and is expected to be available in Q3 2025. Specifications and availability are subject to change. For information on currently available models, please contact us



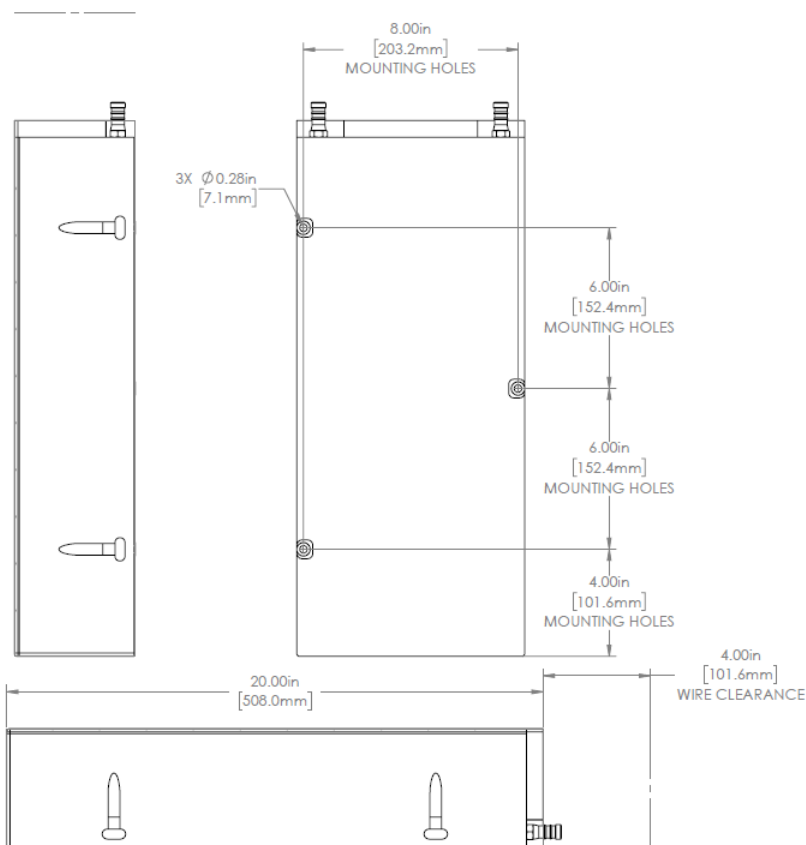
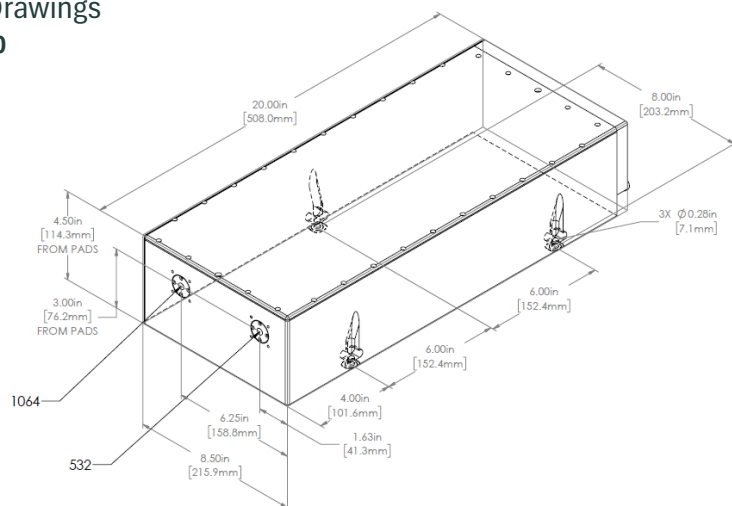
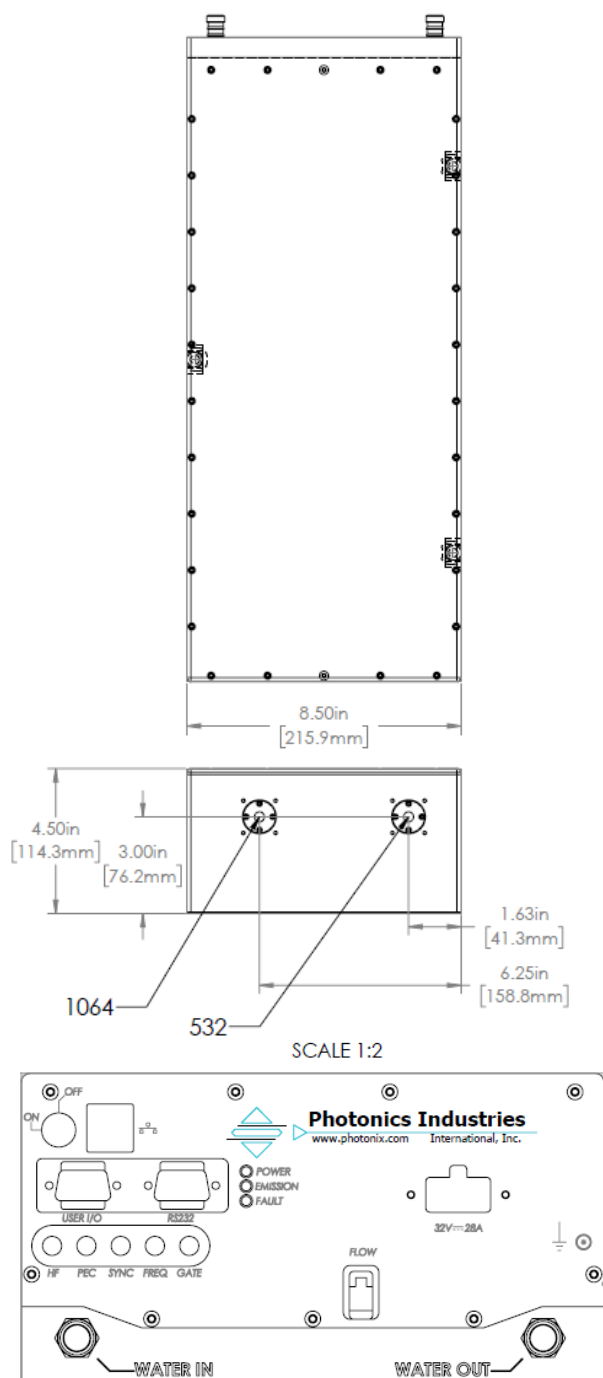
Options:

Multi-wavelength	Multi-wavelength output, blended or selectable	[MWB], [MWS]
Deep Ultraviolet (DUV)	266nm Wavelength available upon request	

Format	SN-1064/532/355/266	-	[Power Level]	-	[xxx]
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Dimensional Drawings

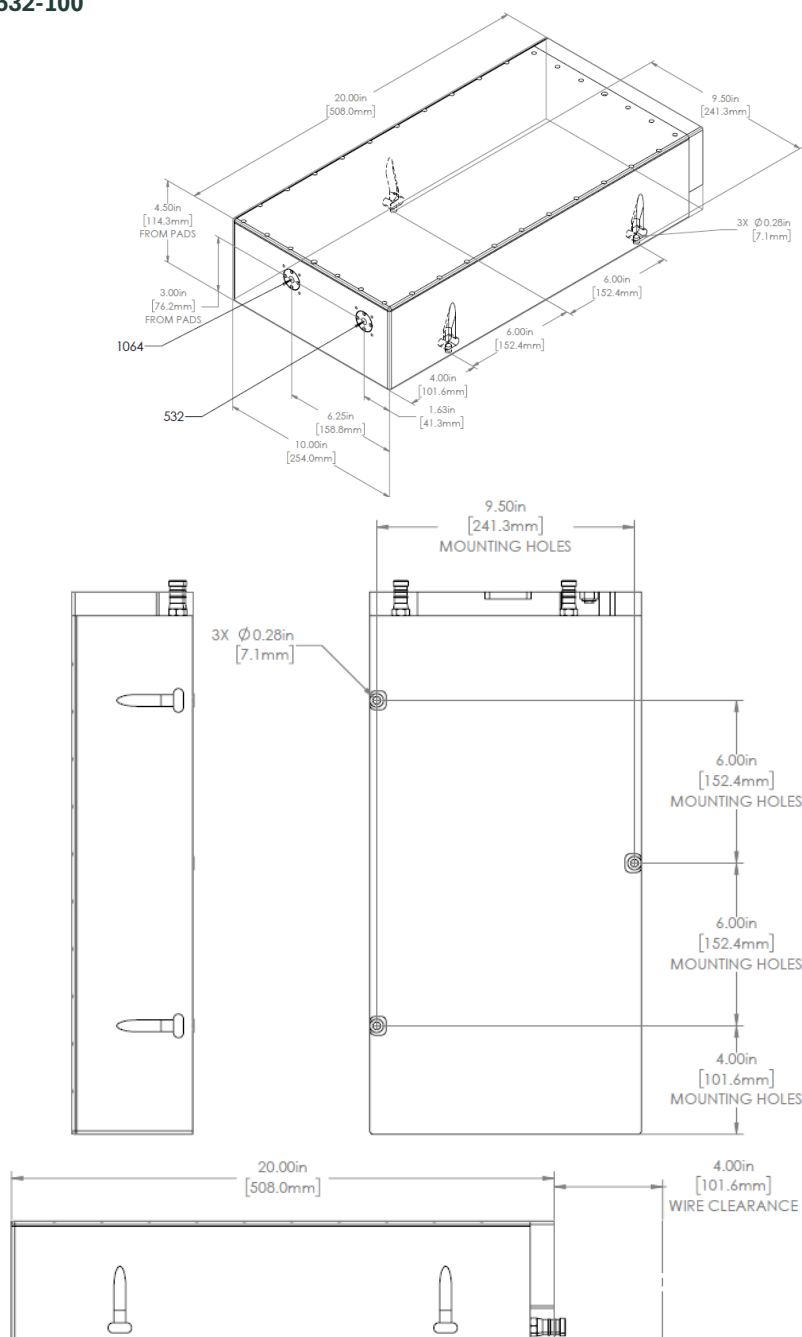
SN-532-70



Options:

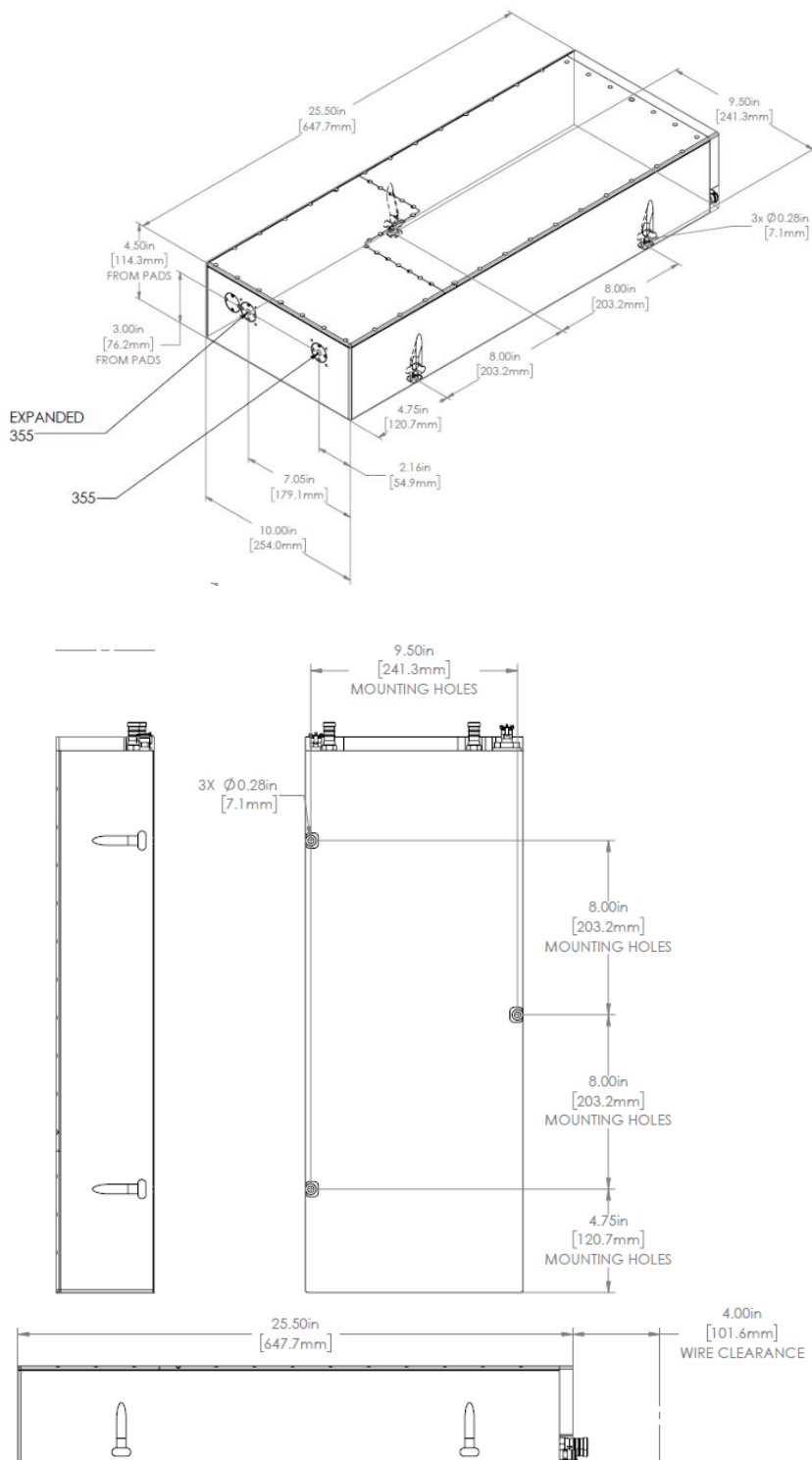
Multi-wavelength	Multi-wavelength output				[MWB]
Format	SN-1064/532	-	[Power Level]	-	[xxx]

SN-532-100



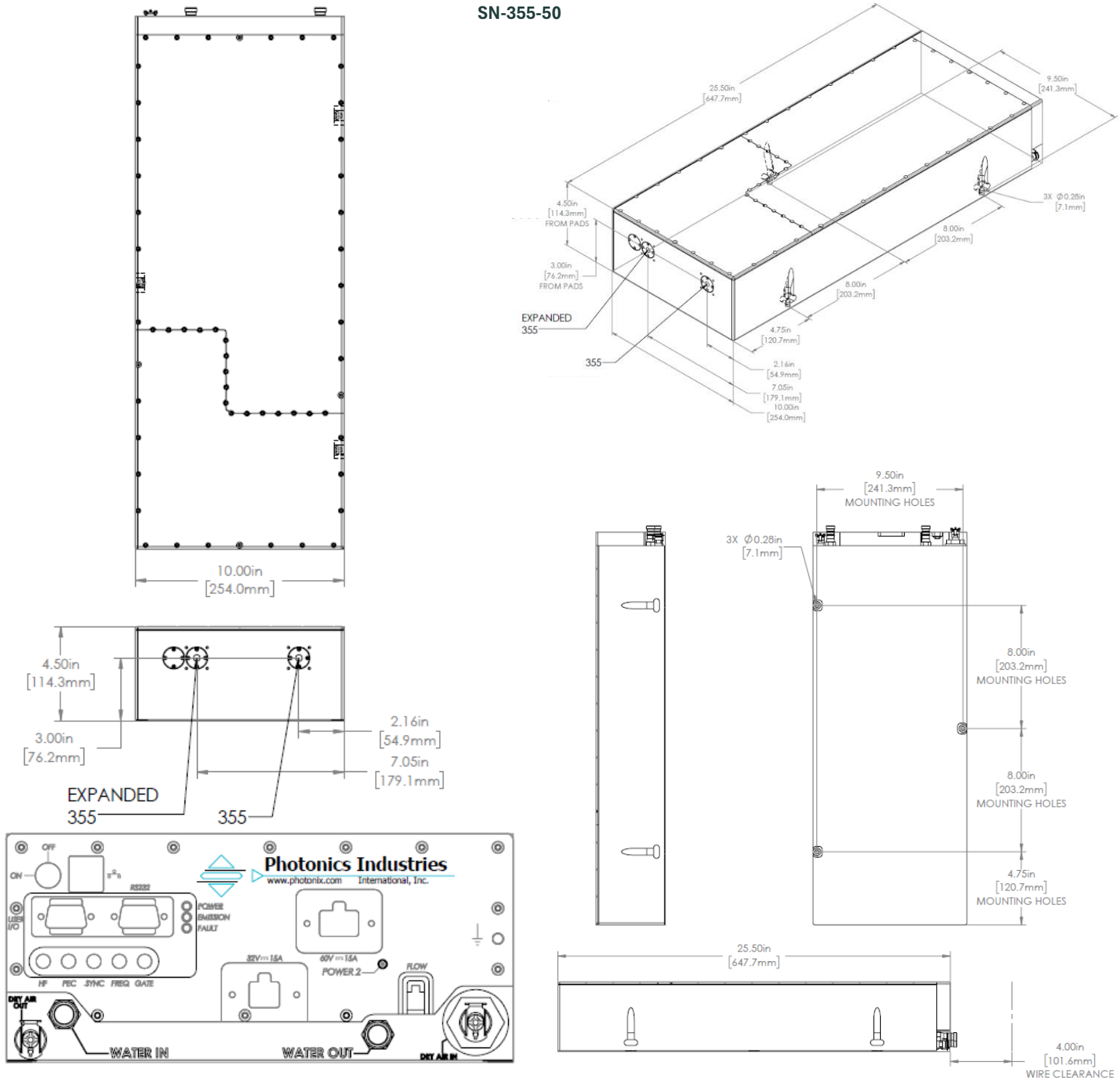
Multi-wavelength	Multi-wavelength output, blended	[MWB]
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Format	SN-1064/532	-	[Power Level]	-	[xxx]
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SN-355-28

Dimensional Drawings

SN-355-50



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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.

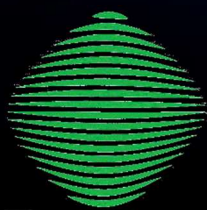
For more information www.photonix.com



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

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