

RX Air Cooled Series

RX Picosecond Lasers

TEM₀₀, Air-Cooled, Picosecond Lasers

With over 15 years of expertise in developing and refining picosecond laser features, performance, reliabilities, after delivering thousands of these RX series lasers, RX Air-Cooled Series picosecond lasers deliver exceptional performance, precision, and durability, making them ideal for advanced industrial and scientific applications. our RX series excels in precision manufacturing, scientific research, and ultrafast laser processing. While maintaining consistent reliability and accuracy.

Photonics Industries has earned a reputation as a global leader in ultrafast laser technology. Each laser is built to rigorous quality standards, reflecting our commitment to innovation and customer satisfaction. Our proven track record demonstrates our ability to address complex challenges and deliver solutions that empower cutting-edge industries and research.



APPLICATIONS

- Marking & Scribing
- Micro-drilling and Micro-machining
- Thin Film Removal and Processing
- PCB & Polymer Cutting & Drilling
- Micro-engraving and Structuring
- Time-resolved Spectroscopy
- Semiconductor Processing
- Sapphire and Glass Cutting

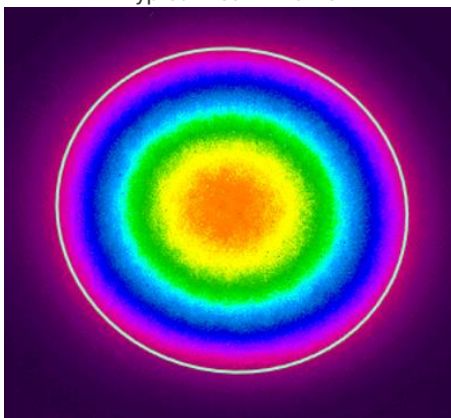
FEATURES

- Up to ~50 μ J Pulse Energy at 100kHz
- True TEM₀₀ Output, $M^2 < 1.2$
- Ultra-Short Pulse Widths (10ps @1064nm) (~7ps@ 532/355nm)
- Air-cooled with Radiator Cooled Option
- Robust & Compact Form Factor
- Dynamic **Pulse Energy Control - PEC**
- **Position Synchronized Output - PSO**
- Power Monitoring and Self-Calibration

Specifications – RX Air-Cooled Series			
	RX-1064-10	RX-532-5	RX-355-3
Wavelength	1064nm	532nm	355nm
Average Power @ 1MHz ¹	10W	5W	3W
Pulse Energy @100kHz ²	~50μJ	~30μJ	~20μJ
Pulse Width	~10ps	~7ps	
Pulse repetition rate	Single shot to 2MHz		
Pulse-to-pulse stability	<1% rms	<2% rms	
Long-term power stability ³	≤1% rms		
Beam spatial mode & M ² †	TEM00 - M ² <1.2		
Beam divergence (nominal)	~ 2 mrad	~1.5 mrad	
Beam diameter at exit (nominal)	~ 1mm		
Beam roundness	~90%		
Beam pointing stability	~20 μrad		
Polarization ratio	Vertical; >100:1	Horizontal >100:1	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	50-60 Hz		
Power consumption	<200W		
Dimensions	16 x 8.9 x 4.5 in.		
Weight	~35lbs [~15.8kg]		
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 / Rad-cooling™		

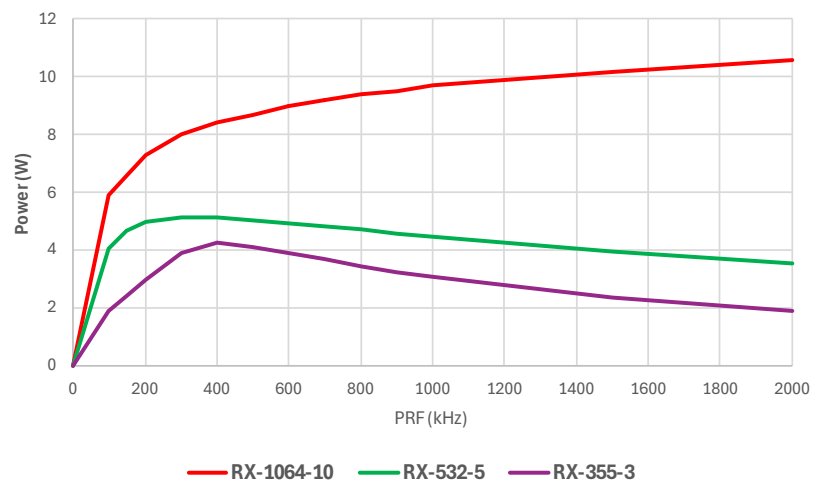
[1] specification is based on 1MHz optimized performance data. [2] Specifications for power and pulse energy are provided for specific repetition rates and are not achievable simultaneously. The listed power and pulse energy apply exclusively to their respective repetition rates. Please inform Photonics Industries of your desired operational PRF (kHz) when placing your order. [3] Measured over 8 hours ± 2°C. [4] For operation of the laser outside of the specified temperature range, contact PI. [†] ALL beam parameters and stability are at specification 1MHz repetition rate.

Typical Beam Profile



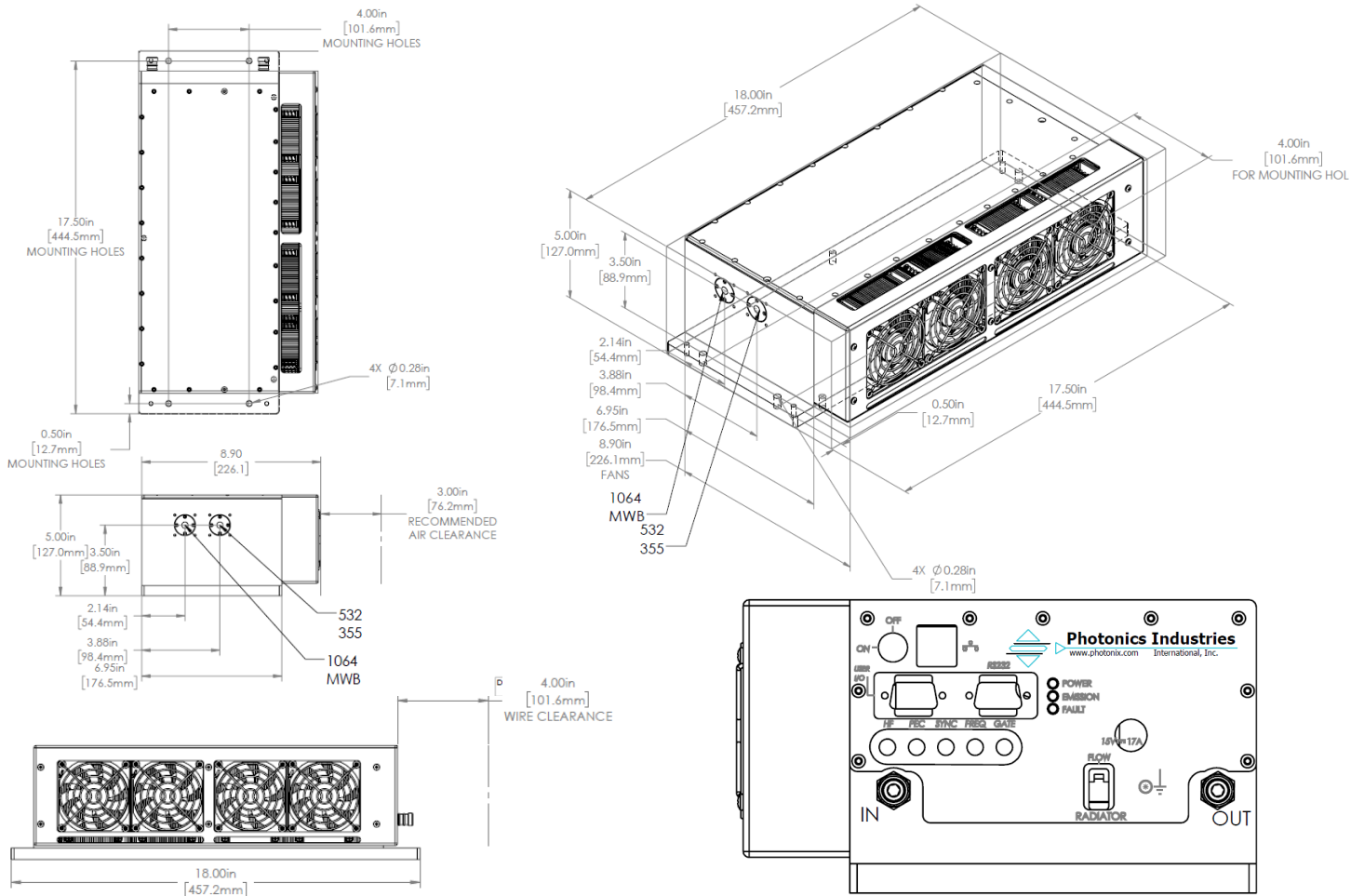
RX-532-5

Power Vs. PRF



Dimensional Drawings

RX-1064-10, RX-532-5, RX-355-3


Options:

High PRR	Up to 15 MHz operational pulse repetition rate	[15M]
Quasi-CW	~32 MHz fixed pulse repetition rate	[QCW]
Multi-wavelength	Multi-wavelength output, blended or selectable	[MWB], [MWS]
Deep Ultraviolet (DUV)	266nm Wavelength available upon request	{RX-266}
Rad-cooling™	Rad-cooling™ system instead of air-cooling fans	[RC]
Format	RX-1064/532/355	- [Power level] - [xxx]



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



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