

# DM Nd: YLF **UV** Series

DM Nanosecond Lasers

## Diode Pumped Multimode, Q-Switched Lasers

As the pioneer of intracavity harmonic lasers and AIO efficient, compact/simple packaging, Photronics Industries has been setting the standard for multimode performance and reliability for over two decades since 2002.

Photronics Industries' DM Series Nd: YLF UV nanosecond lasers deliver up to 60mJ @ 1kHz, over 100W @3kHz at 351nm based on its patented technologies, in a compact, durable design. Ideal for semiconductor annealing, Laser lift off, wafer dicing, UV laser ablation, and excimer laser replacements, these lasers combine high energy with efficiency in a space-saving form.



### APPLICATIONS

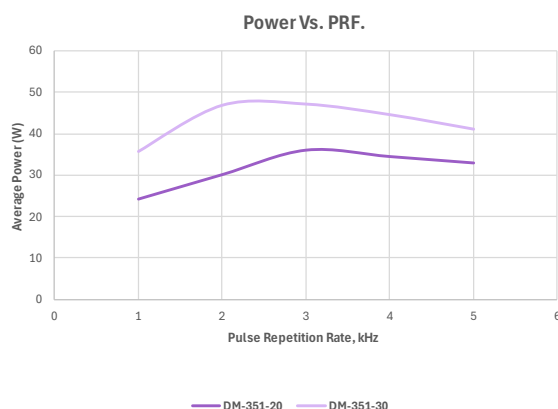
- Semiconductor annealing
- Laser Lift-off for OLED displays
- High Power cutting, drilling, welding, marking, patterning
- Laser Induced Fluorescence (LIF)
- Semiconductor Lithography
- Surface Cleaning and Ablation
- Wafer Processing
- Laser-Induced Breakdown Spectroscopy (LIBS)

### FEATURES

- UV 351nm
- Up to ~120mJ @ 1kHz, 100W@3kHz
- Pulse width from <30ns to 100s ns
- Multimode Output
- Robust & Compact Form Factor
- Dynamic **Pulse Energy Control - PEC**
- Power Monitoring and Auto-attenuation
- Unmatched Reliability

Specifications – DM Nd: YLF UV Series		
	DM-351-20	DM-351-30
Wavelength	351nm	
Average Power @3kHz	30W	45W
Pulse Energy @1kHz	20mJ	30mJ
Pulse Width @ 1kHz	~50+/-10ns	50+/-10ns
PULSE WIDTH @3KhZ	70+/-20ns	70+/-20ns
Pulse repetition rate <sup>2</sup>	1kHz to 6 kHz	
Pulse-to-pulse stability <sup>3</sup>	<1.0% rms	
Long-term power stability <sup>4</sup>	<0.5% rms	
Beam spatial mode	Multimode M <sup>2</sup> <sub>x</sub> 22+/-3   M <sup>2</sup> <sub>y</sub> 12+/-2	
Beam divergence (nominal)	X:~6.0+/-1.0 Y:~2.8+/-0.5 mrad	X:~6.0+/-1.0 Y:~2.3+/-0.5 mrad
Beam diameter at exit	X:~3.7+/-0.5; Y: 2.6+/-0.5 mm	X:~2.7+/-0.5; Y: 2.2+/-0.5 mm
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	< 5 minutes from standby, <10 minutes from cold start	
Electrical requirement	100-240 V AC	
Line frequency	50-60 Hz	
Power consumption <sup>5</sup>	0.8kW	1kW
Laser Head Dimensions	26 x 9.5 x 4.25in [660 x 241.3 x 108mm]	
Power Supply Dimensions <sup>6</sup>	15 x 19 x 3.5 in	
Weight	~85lbs	
	Environmental Requirements	
Ambient temperature	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	

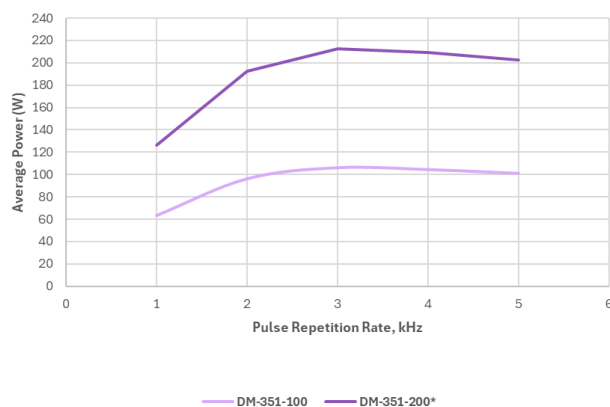
[2.] Lower pulse repetition rates (down to < 1 kHz) performance achieved by pulse energy capping [3] Measured at ambient temperature ± 2°C [4] Measured over 8 hours ± 1°C [5] Power consumption data does not include an external chiller's power consumption [6] Total width with rack mount option is 19 in. Please note the height in rack units is 2U.



Specifications – DM Nd: YLF UV Series		
	DM-351-60	DM2-351-60
Wavelength	351nm	
Average Power @3kHz	100W	200W (Combined power)
Pulse Energy @1kHz	60mJ	120mJ (Combined energy)
Pulse width @1kHz	30+/-10ns	
Pulse Width @ 3kHz	~50+/-10ns	
Pulse repetition rate <sup>2</sup>	1kHz to 5kHz	1kHz to 10kHz
Pulse-to-pulse stability <sup>3</sup>	<1.0% rms	
Long-term power stability <sup>4</sup>	<0.5% rms	
Beam spatial mode	Multimode M <sup>2</sup> <sub>x</sub> 16+/-3   M <sup>2</sup> <sub>y</sub> 7.5+/-1.5	
Beam divergence (nominal)	X:~5.0mrad Y:~2.0mrad	
Beam diameter at exit	~ X: 3+/-0.5; Y: 2.2+/-0.5 mm	
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	< 5 minutes from standby, <10 minutes from cold start	
Electrical requirement	200-240 V AC	
Line frequency	50-60 Hz	
Power consumption <sup>5</sup>	<2kW	>2kW
Laser Head Dimensions	26 x 9.5 x 4.25in [660 x 241.3 x 108mm]	26 x 16 x 4.25in [660 x 406.4 x 108mm]
Power Supply Dimensions <sup>6</sup>	15 x 19 x 3.5 in	16 x 19 x 3.5 in
Weight	~85lbs	~110lbs
	Environmental Requirements	
Ambient temperature	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	

[2.] Lower pulse repetition rates (down to < 1 kHz) performance achieved by pulse energy capping [3] Measured at ambient temperature ± 2°C [4] Measured over 8 hours ± 1°C [5] Power consumption data does not include an external chiller's power consumption [6] Total width with rack mount option is 19 in. Please note the height in rack units is 2U. [NB] Specifications are subject to change. For customized or non-standard operational specifications, please contact us.

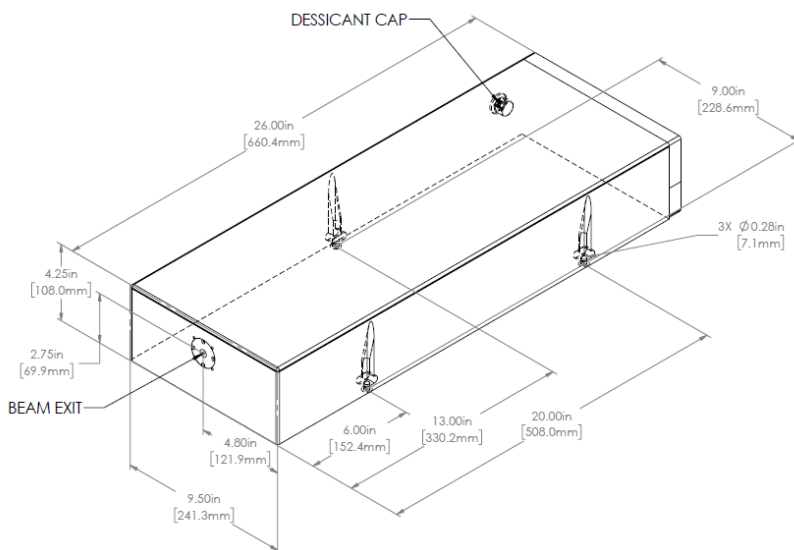
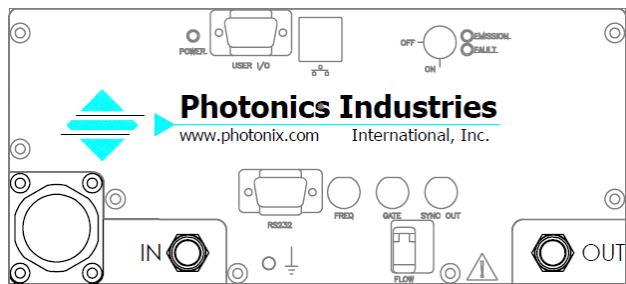
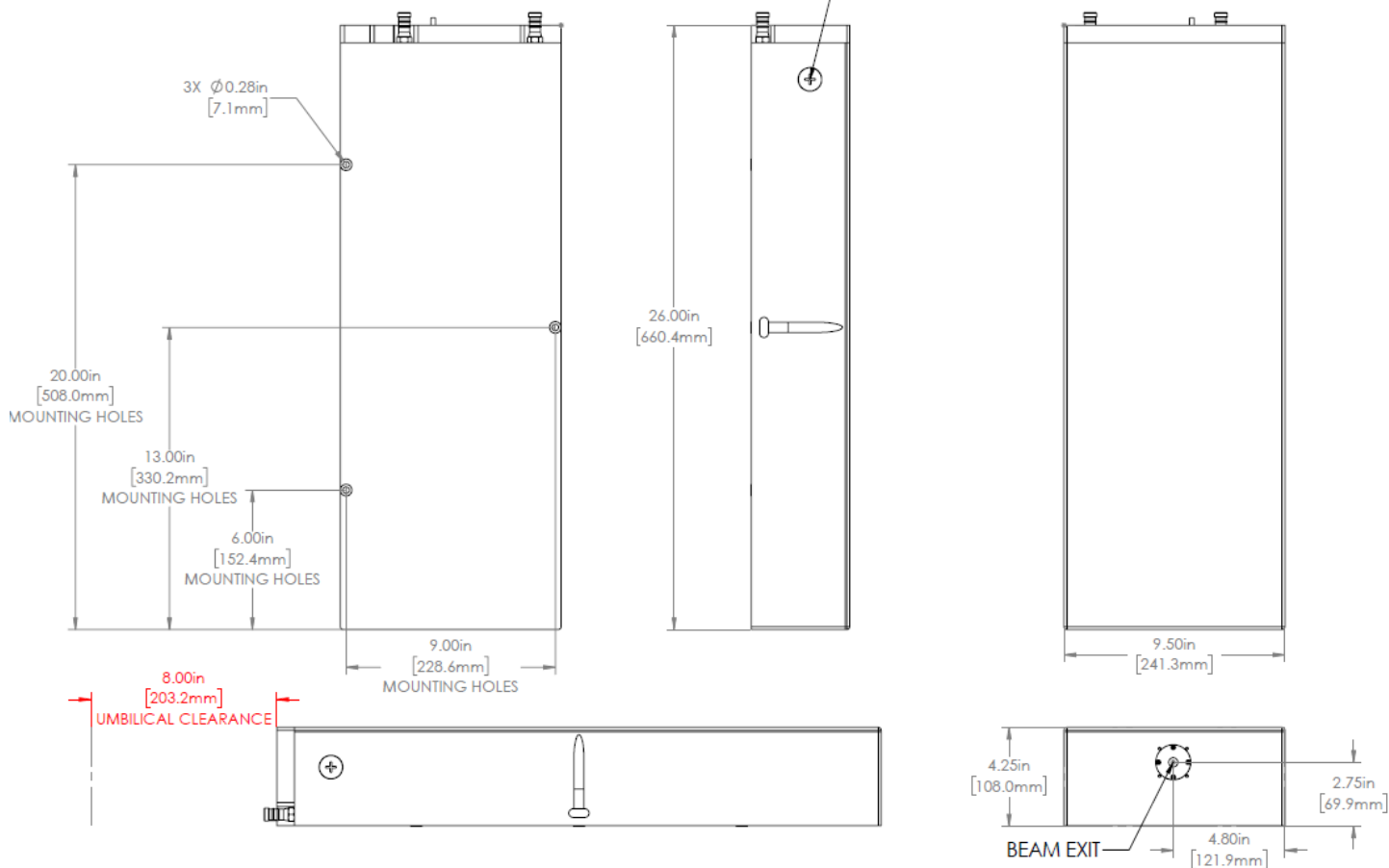
**Power Vs. PRF.**



# Dimensional Drawings

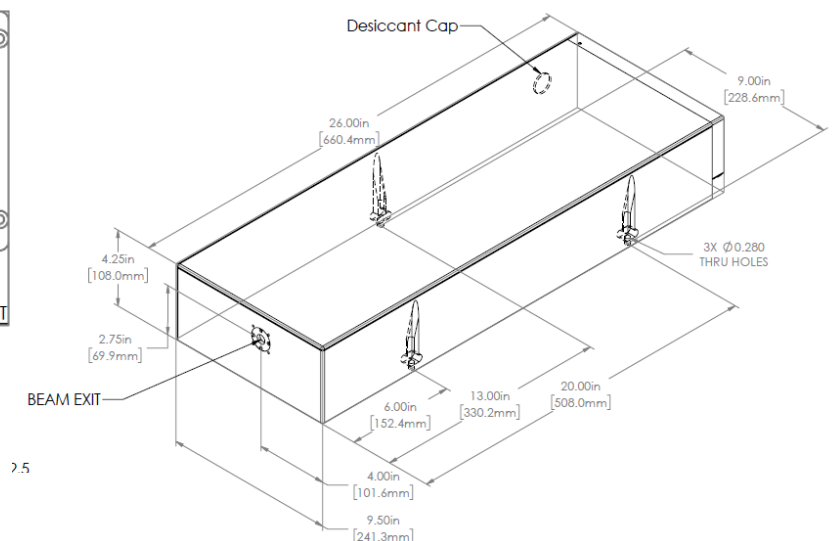
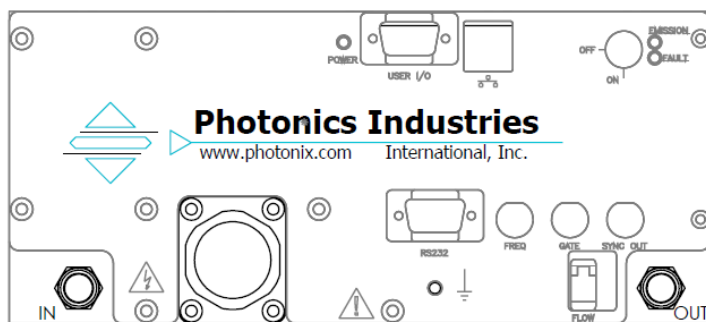
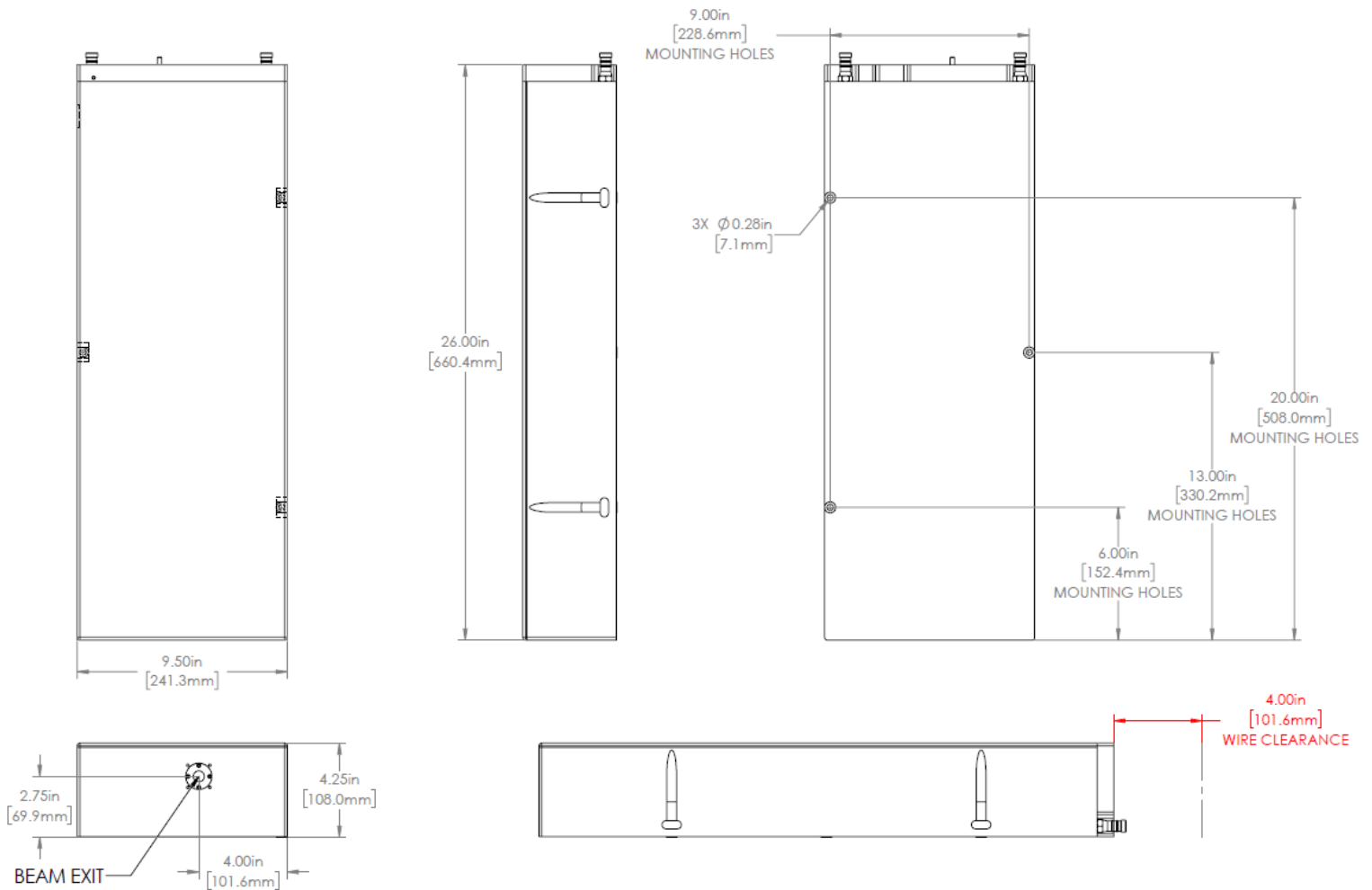
**DM-351-20/30**

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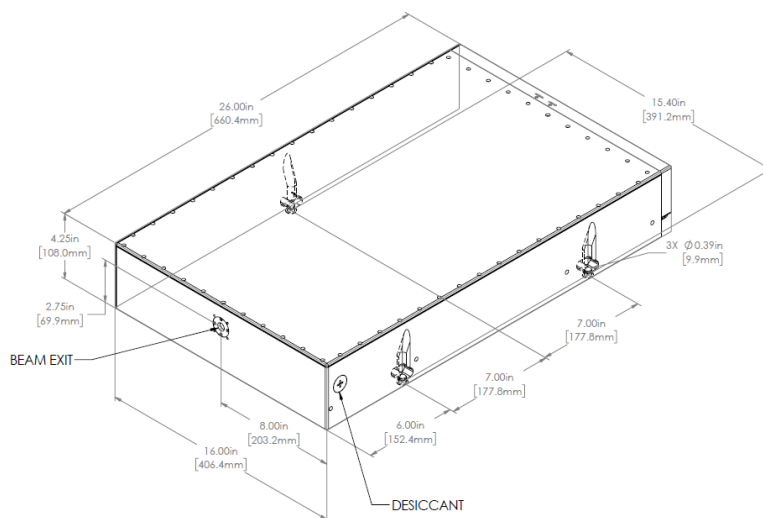
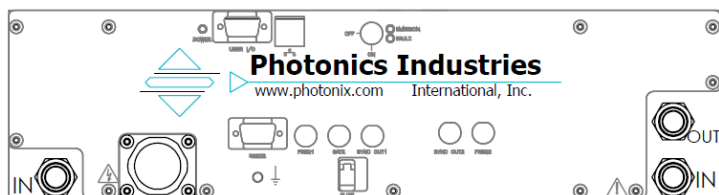
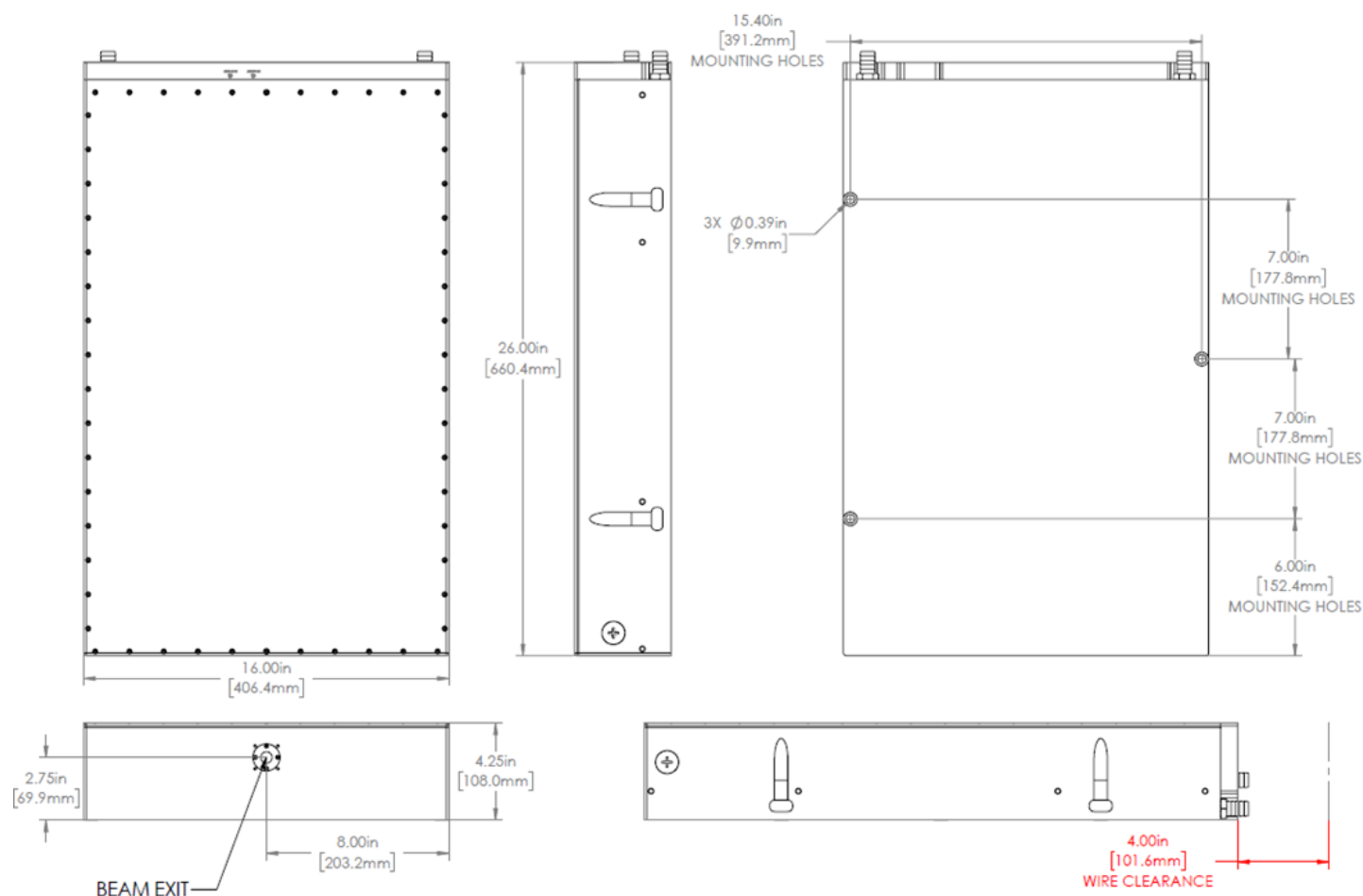
# Dimensional Drawings

## DM-351-100

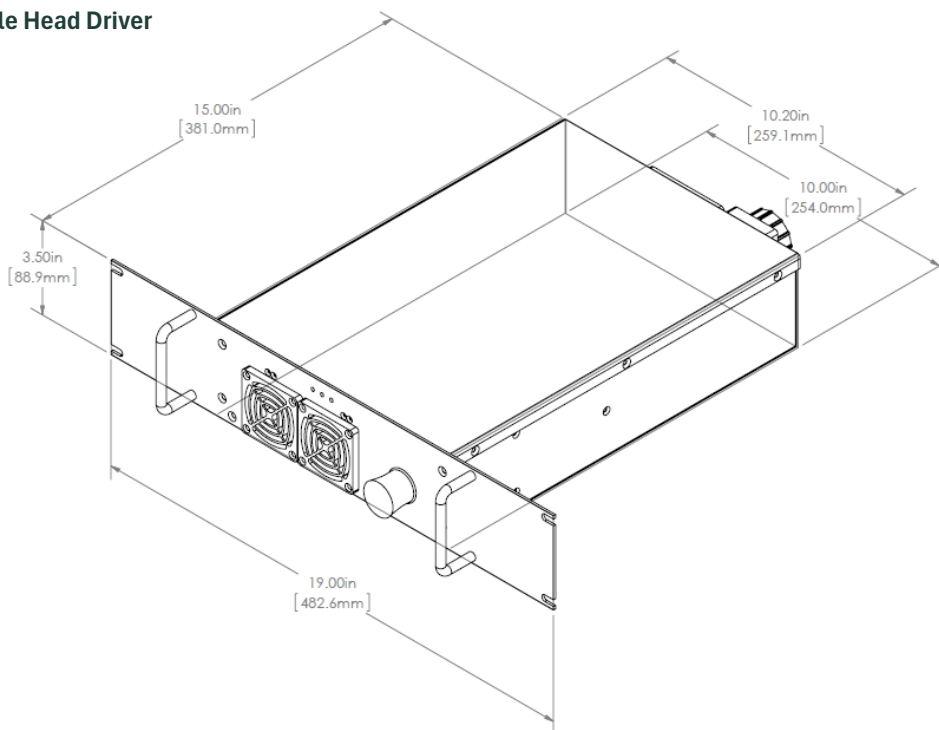


# Dimensional Drawings

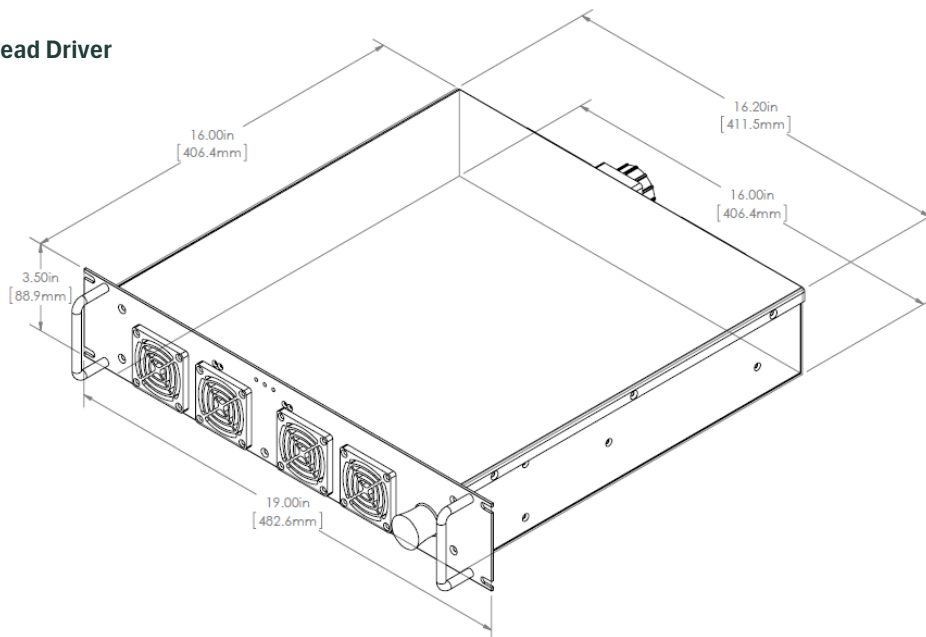
## DM2-351-100



### DM Single Head Driver



### DM Dual Head Driver



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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](http://www.photonix.com)