

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 (nm)	351	
Average Power (W)@3kHz	30	45
Pulse Energy (mJ) @1kHz	20	30
Pulse Width (ns) @ 1kHz	~50+/-10	50+/-10
Pulse Width (ns) @ 3kHz	70+/-20	70+/-20
Pulse repetition rate (kHz) ²	1 to 6	
Pulse-to-pulse stability (%RMS) ³	<1.0	
Long-term power stability (%RMS) ⁴	<0.5	
Beam spatial mode	Multimode M ² _x 22+/-3 M ² _y 12+/-2	
Beam divergence (nominal) (mrad)	X:~6.0+/-1.0 Y:~2.8+/-0.5	X:~6.0+/-1.0 Y:~2.3+/-0.5
Beam diameter at exit (mm)	X:~3.7+/-0.5 Y: 2.6+/-0.5	X:~2.7+/-0.5 Y: 2.2+/-0.5
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	
Line frequency (Hz)	50-60	
Power consumption (kW) ⁵	0.8	1
Laser Head Dimensions	26 x 9.5 x 4.25in [660 x 241.3 x 108mm]	
Power Supply Dimensions ⁶	15 x 19 x 3.5 in [381 x 482.6 x 88.9mm]	
Weight	~85lbs [~38.6kg]	
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 (nm)	351	
Average Power (W)@3kHz	100	200 (Combined power)
Pulse Energy (mJ) @1kHz	60	120 (Combined energy)
Pulse Width (ns) @ 1kHz	30+/-10	
Pulse Width (ns) @ 3kHz	~50+/-10	
Pulse repetition rate (kHz) ²	1 to 5	1 to 10
Pulse-to-pulse stability (%RMS) ³	<1.0	
Long-term power stability (%RMS) ⁴	<0.5	
Beam spatial mode	Multimode M ² _x 16+/-3 M ² _y 7.5+/-1.5	
Beam divergence (nominal) (mrad)	X:~5.0 Y:~2.0	
Beam diameter at exit (mm)	~ X: 3+/-0.5; Y: 2.2+/-0.5	
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	200-240 V AC	
Line frequency (Hz)	50-60	
Power consumption (kW) ⁵	<2	>2
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 ⁶	15 x 19 x 3.5 in [381 x 482.6 x 88.9mm]	16 x 19 x 3.5 in [406.4 x 482.6 x 88.9mm]
Weight	~75lbs [~34kg]	~110lbs [~50kg]
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	

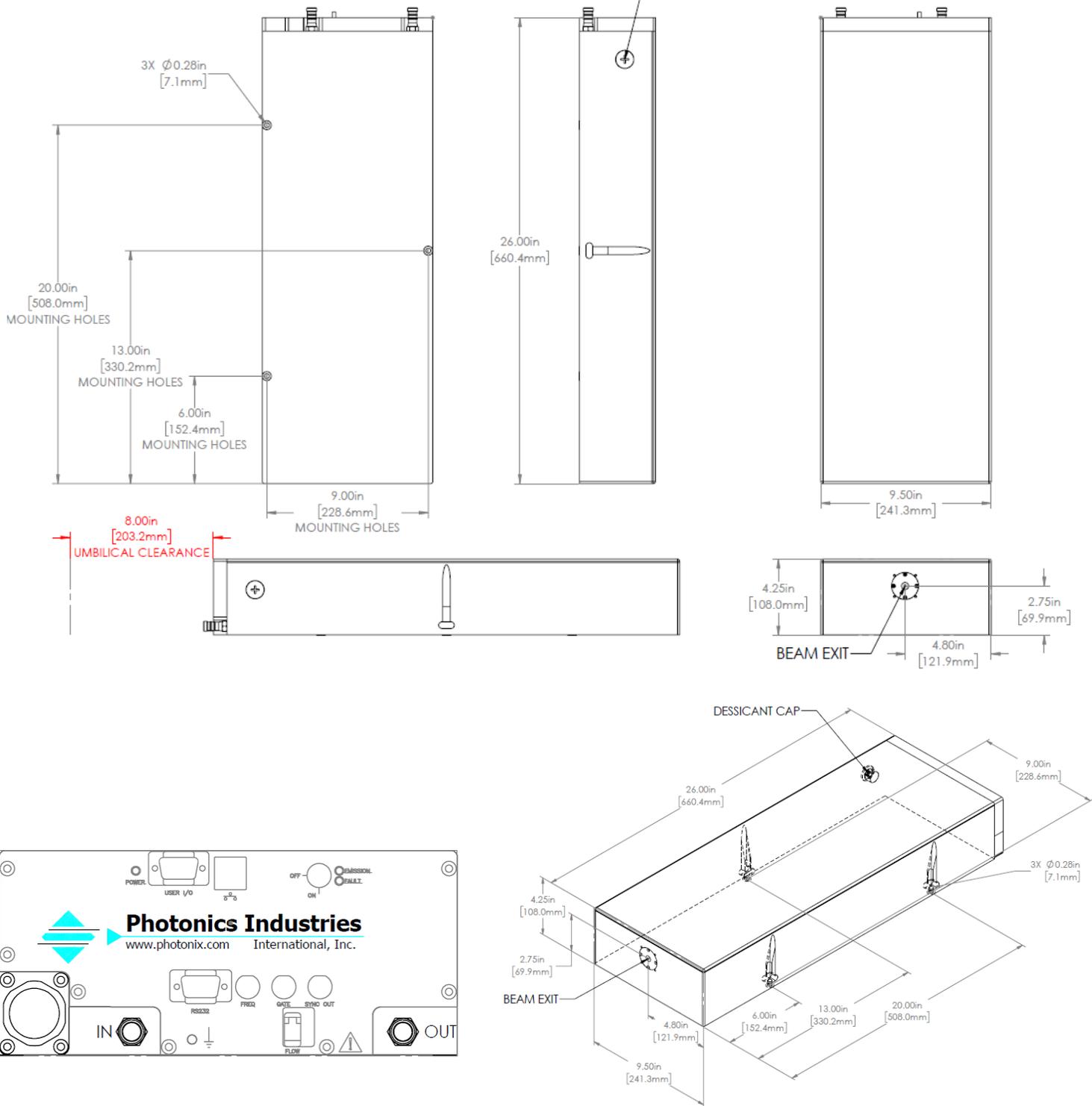
[2.] Lower pulse repetition rates (down to < 1 kHz) performance achieved by pulse energy capping [3] Measured at ambient temperature ± 2°C [4] Measured over 8 hours ± 1°C [5] Power consumption data does not include an external chiller's power consumption [6] Total width with rack mount option is 19 in.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



Dimensional Drawings

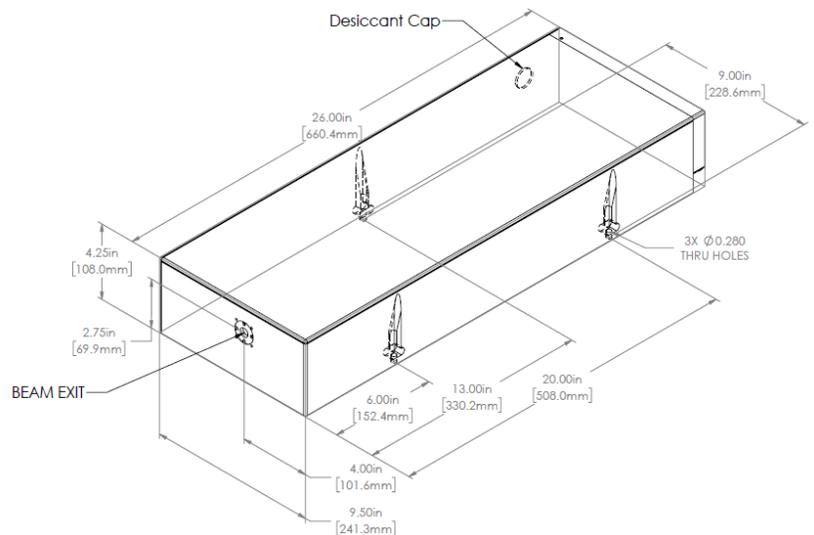
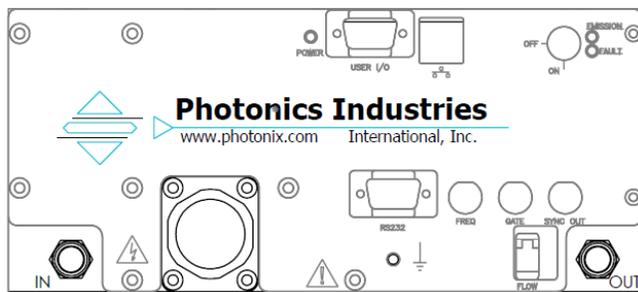
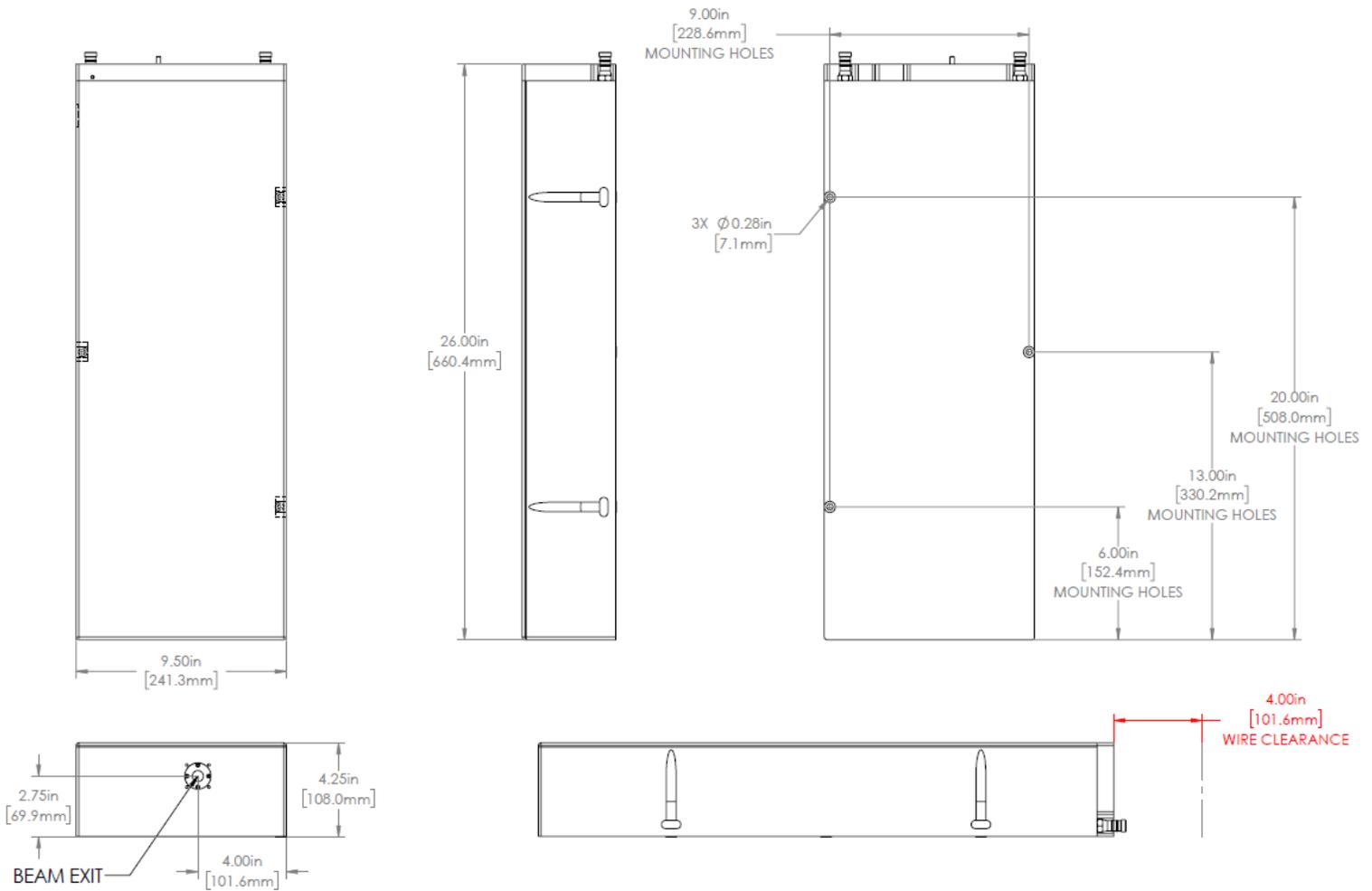
DM-351-20/30

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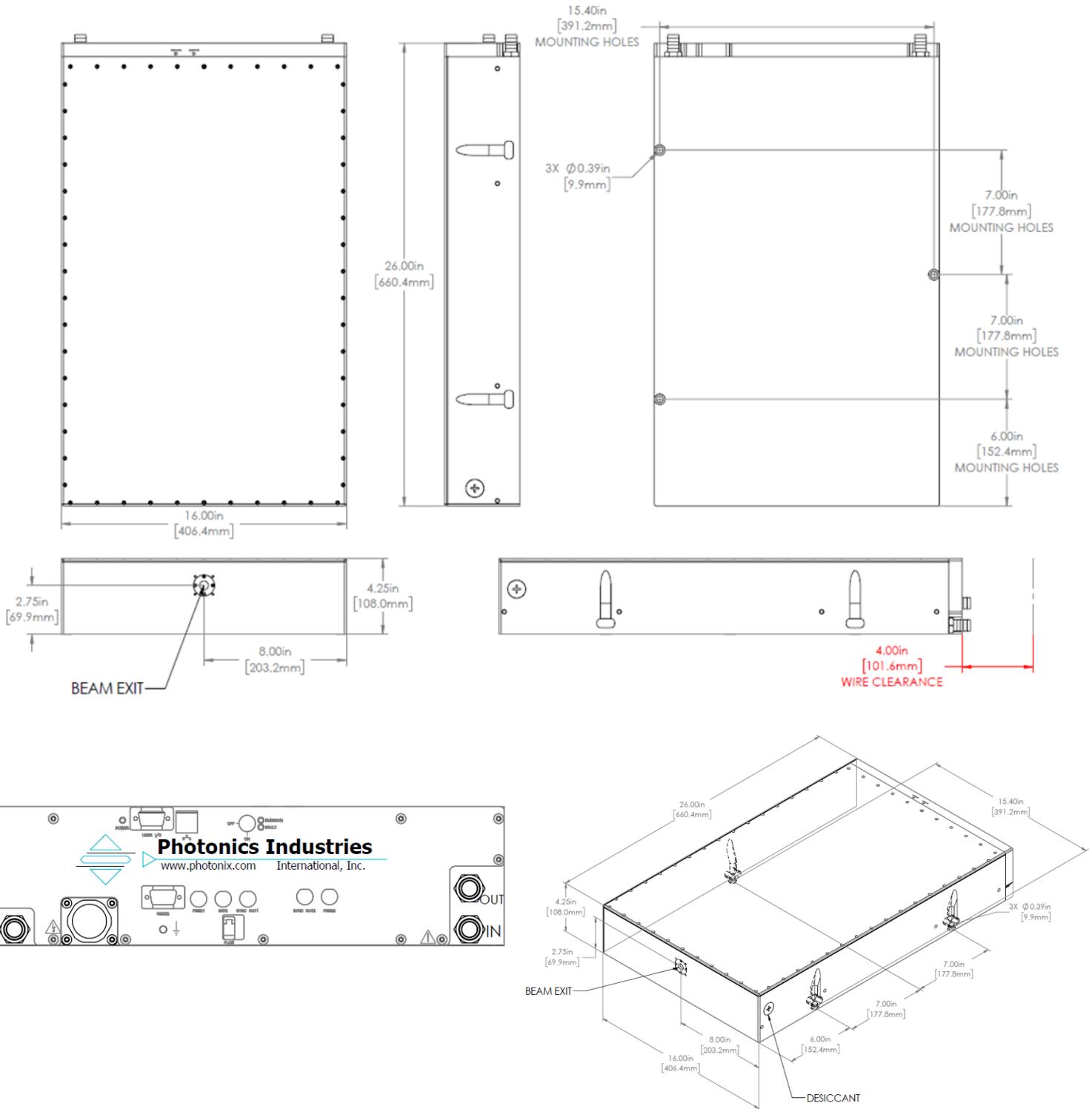
Dimensional Drawings

DM-351-100

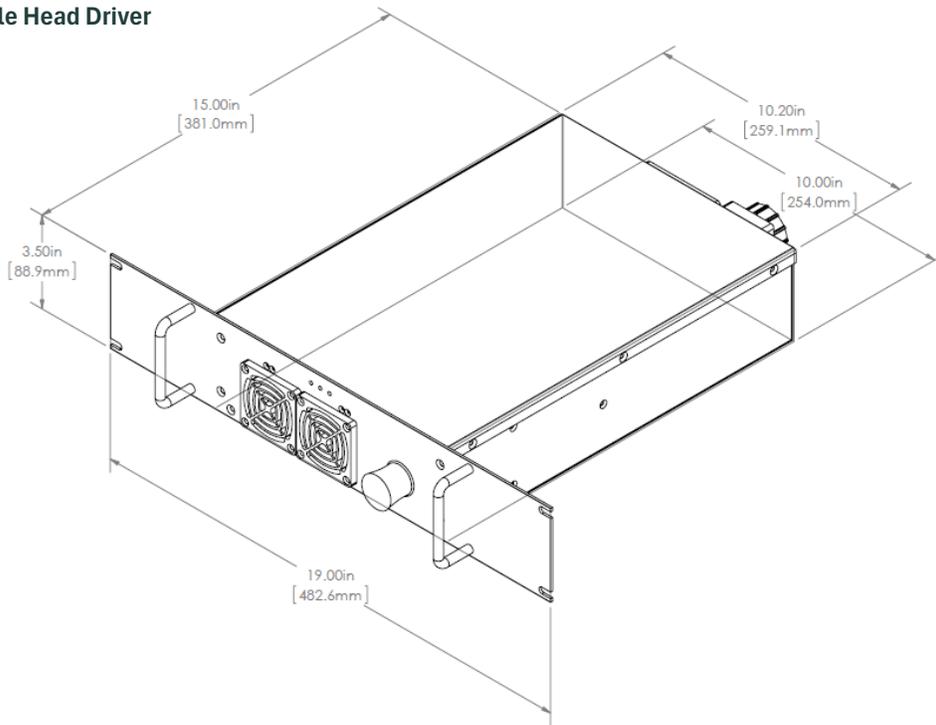


Dimensional Drawings

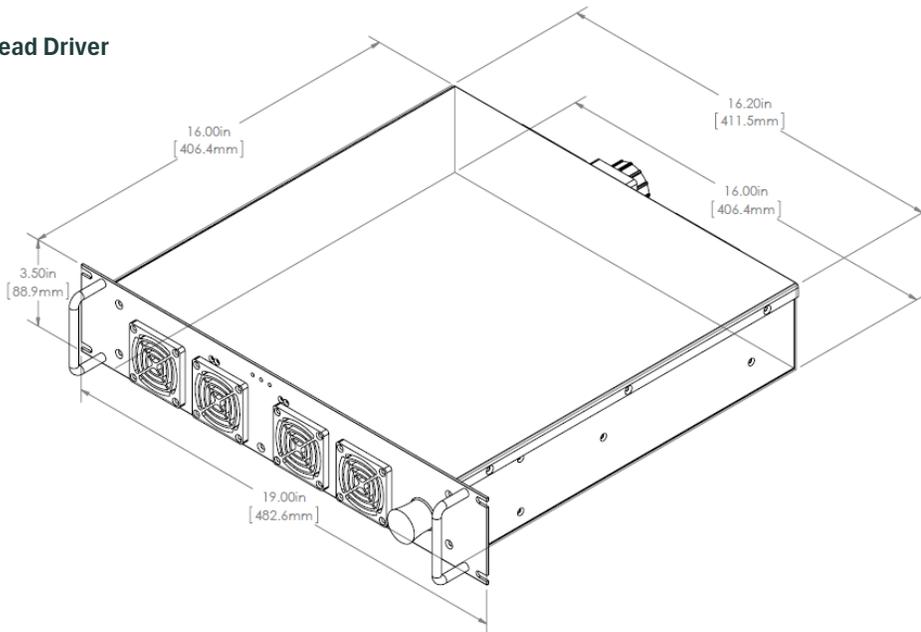
DM2-351-100



DM Single Head Driver



DM Dual Head Driver



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

