DM Nd:YLF Series

DM Nanosecond Lasers

DPSS, Multimode, Q-Switched Lasers

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

Photonics Industries' DM Series Nd:YLF green nanosecond lasers deliver up to 100mJ pulse energy or 150W power, based on its patented technologies, in a compact, durable design. Dual Head models double these to 200mJ and 300W, offering versatile solutions for research and industrial needs. Ideal for PIV studies, laser thermal processing, and annealing, these lasers combine high energy with efficiency in a space-saving form.

APPLICATIONS

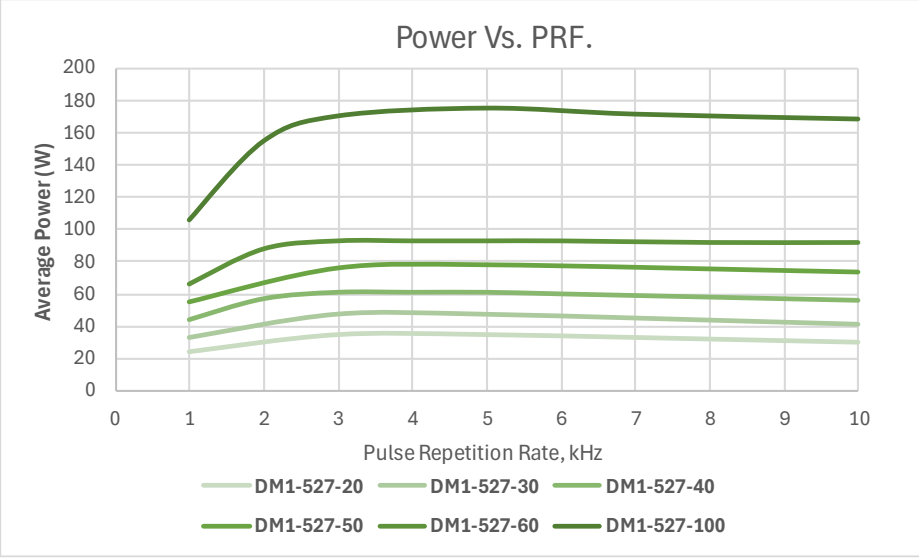
- Particle Image Velocimetry (PIV)
- Pumping Ti: Sapphire, Ultrafast Amplifier Systems
- High Power cutting, drilling, welding, marking, patterning
- Laser Thermal Processing (LTP)
- Semiconductor Lithography
- Surface Cleaning and Ablation
- Waterjet Assisted Laser cutting
- Diamond Cutting
- Precision Layer Removal for Additive Manufacturing

FEATURES

- Up to ~200mJ Pulse Energy at 1 kHz
- Multimode Output
- Proprietary Twin Pulse mode option
- Water Cooled
- Robust & Compact Form Factor
- Dynamic **P**ulse **E**nergy **C**ontrol - **PEC**
- Power Monitoring and Auto-attenuation
- Unmatched Reliability

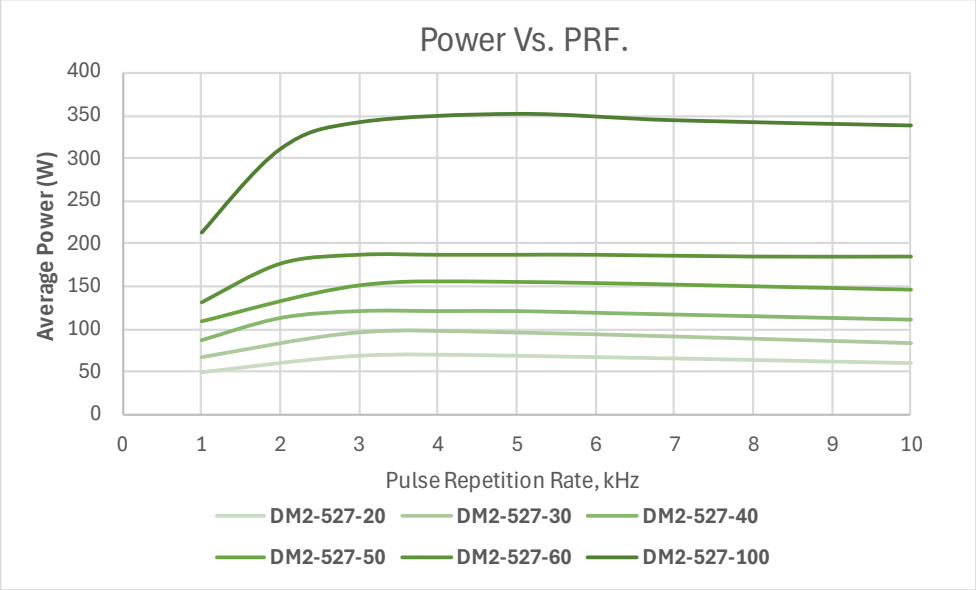
Specifications – **DM Nd:YLF Single Head Series**						
	DM1-527-20	**DM1-527-30**	**DM1-527-40**	**DM1-527-50**	**DM1-527-60**	**DM1-527-100**
Wavelength	527nm					
Average Power @3kHz	30W	45W	60W	75W	90W	150W
Pulse Energy @1kHz	20mJ	30mJ	40mJ	50mJ	60mJ	100mJ
Pulse Width @ 1kHz	~180ns	~170ns	~140ns	~120ns	~110ns	~100ns
Pulse repetition rate[2]	Single shot to 10 kHz (option to run up to 15kHz)					
Pulse-to-pulse stability[3]	<0.5% rms					
Long-term power stability [4]	<0.5% rms					
Beam spatial mode[5]	Multimode M^2 10-16					
Beam divergence (nominal)	9mrad ±15%					
Beam diameter at exit	~ 5 mm					
Beam roundness	>85%					
Beam pointing stability	<25 urad					
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		200-240 V AC			
Line frequency	50-60 Hz					
Power consumption[6]	~0.8kW	~1kW	~1.6kW	~1.7kW	~1.8kW	~2.3kW
Laser Head Dimensions	26 x 6.5 x 4.25 in					26 x 11 x 4.25 in
Power Supply Dimensions[7]	15 x 10.2 x 3.5 in					
Weight	~49lbs [22.2kg]					~84lbs [38.1kg]
	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] TEM00 beam option available (contact us) [6] Power consumption data does not include an external chiller's power consumption [7] Total width with rack mount option is 19 in. Please note the height in rack units is 2U.



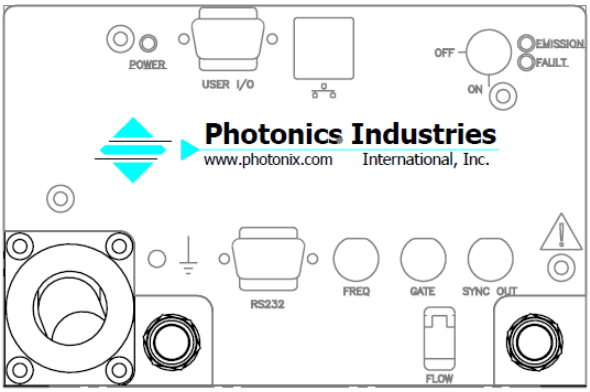
Specifications – **DM Nd:YLF Dual Head Series**						
	DM2-527-20	**DM2-527-30**	**DM2-527-40**	**DM2-527-50**	**DM2-527-60**	**DM2-527-100**
Wavelength	527nm					
Average Power @3kHz	60W	90W	120W	150W	180W	300W
Pulse Energy @1kHz	40mJ	60mJ	80mJ	100mJ	120mJ	200mJ
Pulse Width @ 1kHz	~180ns	~170ns	~140ns	~120ns	~110ns	~100ns
Pulse repetition rate[2]	Single shot to 10 kHz					
Pulse-to-pulse stability[3]	<0.5% rms					
Long-term power stability [4]	<0.5% rms					
Beam spatial mode[5]	Multimode M^2 10-16					
Beam divergence (nominal)	9mrad ±15%					
Beam diameter at exit	~ 6 mm					
Beam roundness	>85%					
Beam pointing stability	<25 urad					
Polarization ratio	N/A					
	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		200-240 V AC			
Line frequency	50-60 Hz					
Power consumption[6]	~1.6kW	~2kW	~3.2kW	~3.4kW	~3.6kW	~4.6kW
Laser Head Dimensions	26 x 11 x 4.25 in					27x18.5x4.25 in
Power Supply Dimensions[7]	16 x 16.2 x 3.5 in					
Weight	~84lbs [38.1kg]					~115lbs [52kg]
	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					

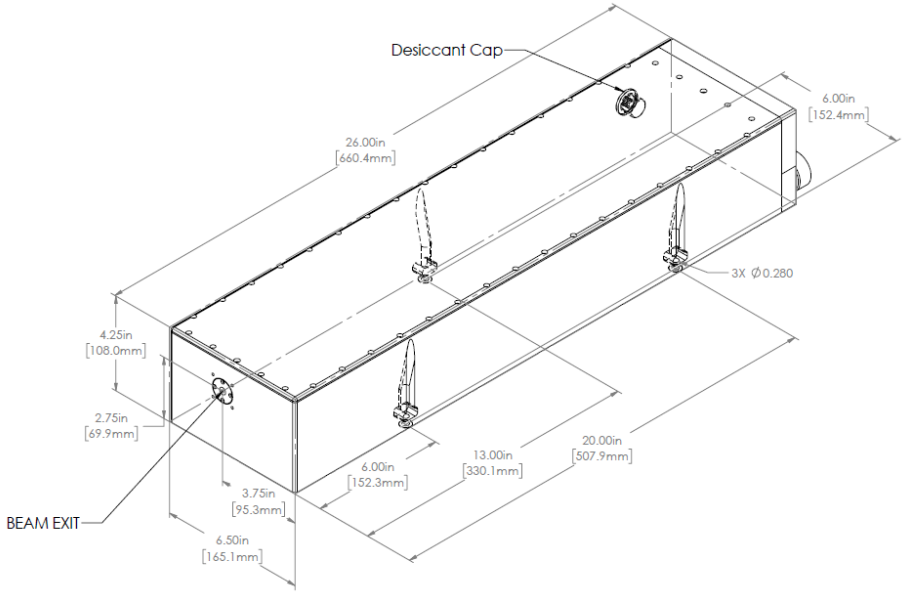
[2.] Lower pulse repetition rates (down to < 1 kHz) performance achieved by pulse energy capping [3] Measured at ambient temperature ± 2°C [4] Measured over 8 hours ± 1°C [5] TEM00 beam option available contact us) [6] Power consumption data does not include an external chiller's power consumption [7] Total width with rack mount option is 19 in. Please note the height in rack units is 2U.

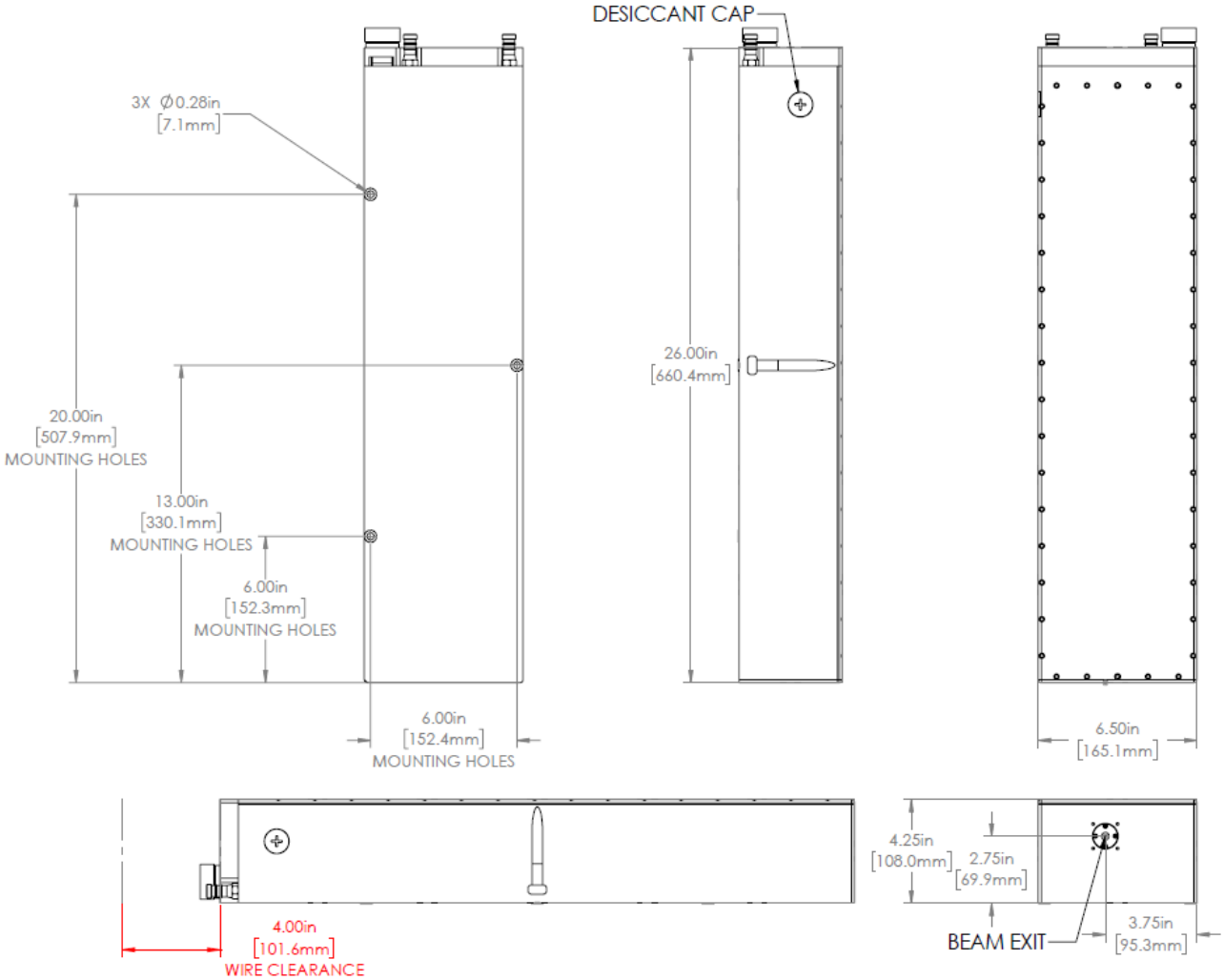


Dimensional Drawings

DM1-527-20/30/40/50/60

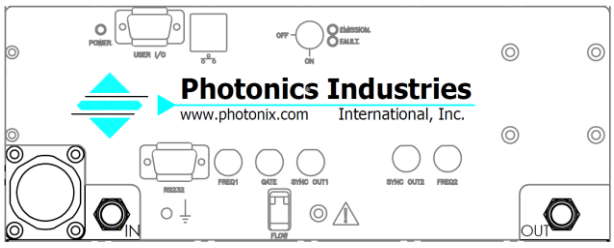


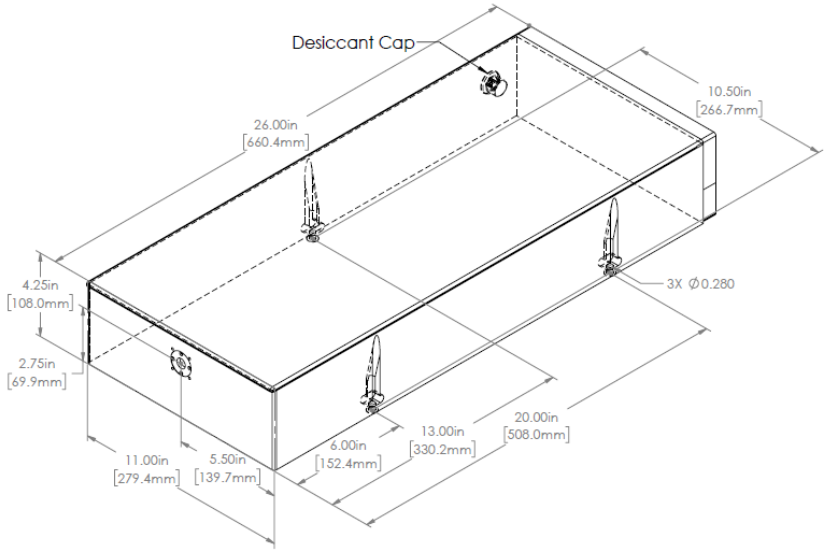


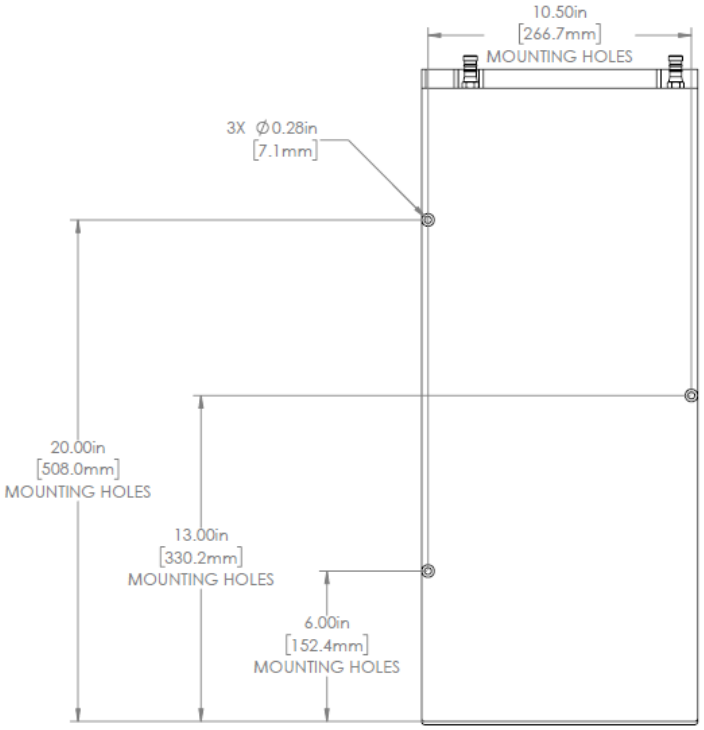


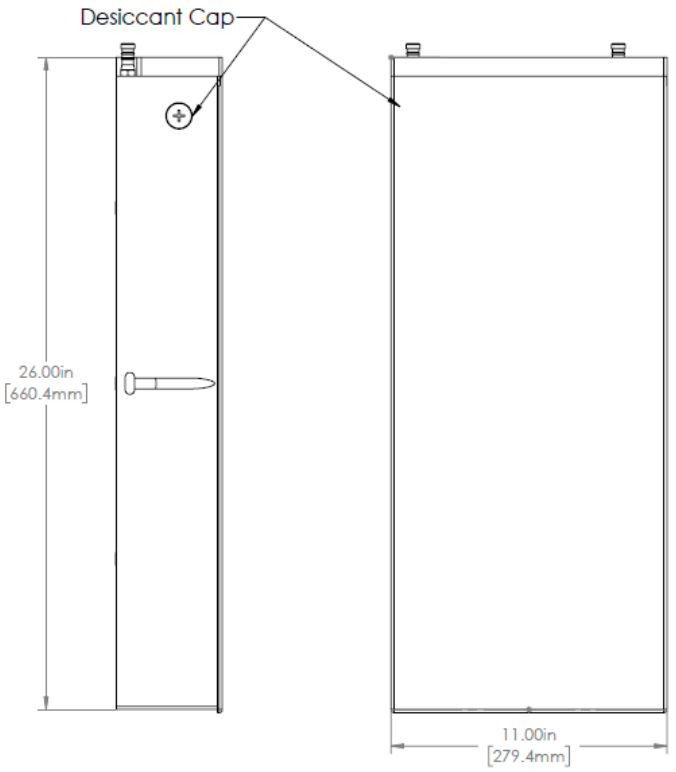
Dimensional Drawings

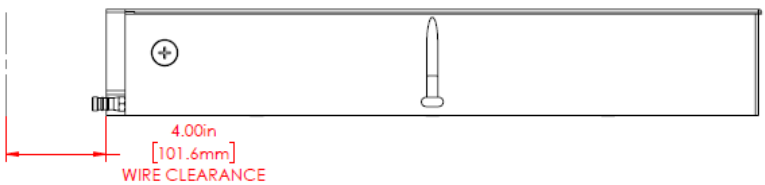
DM2-527-20/30/40/50/60
DM1-527-100

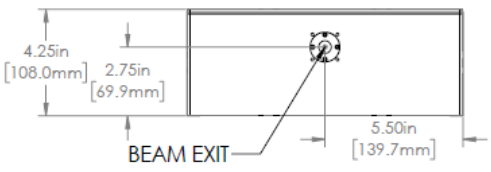






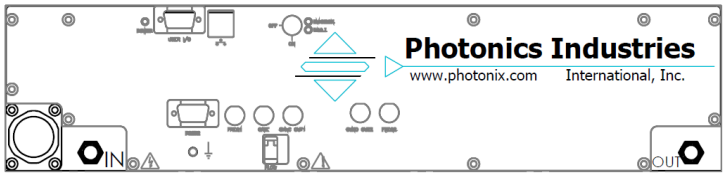


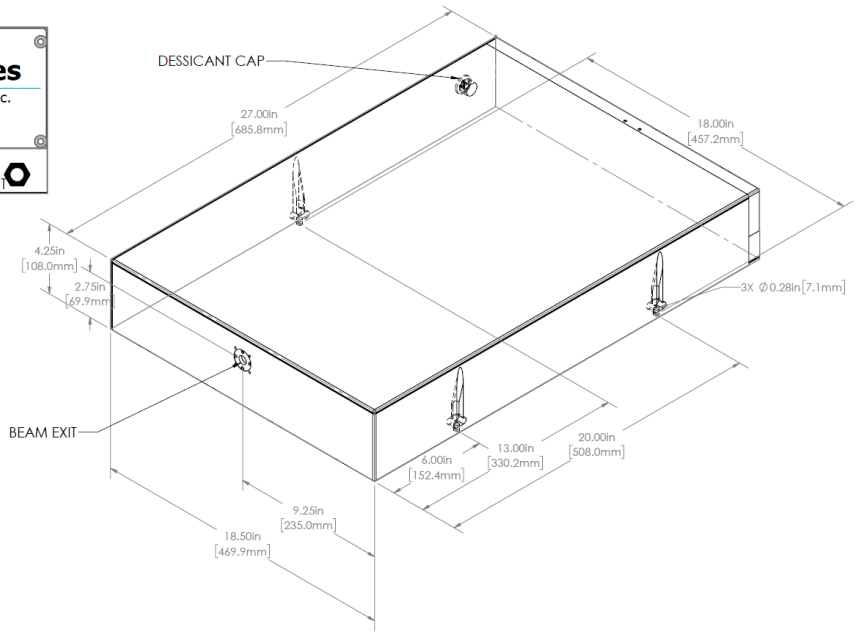


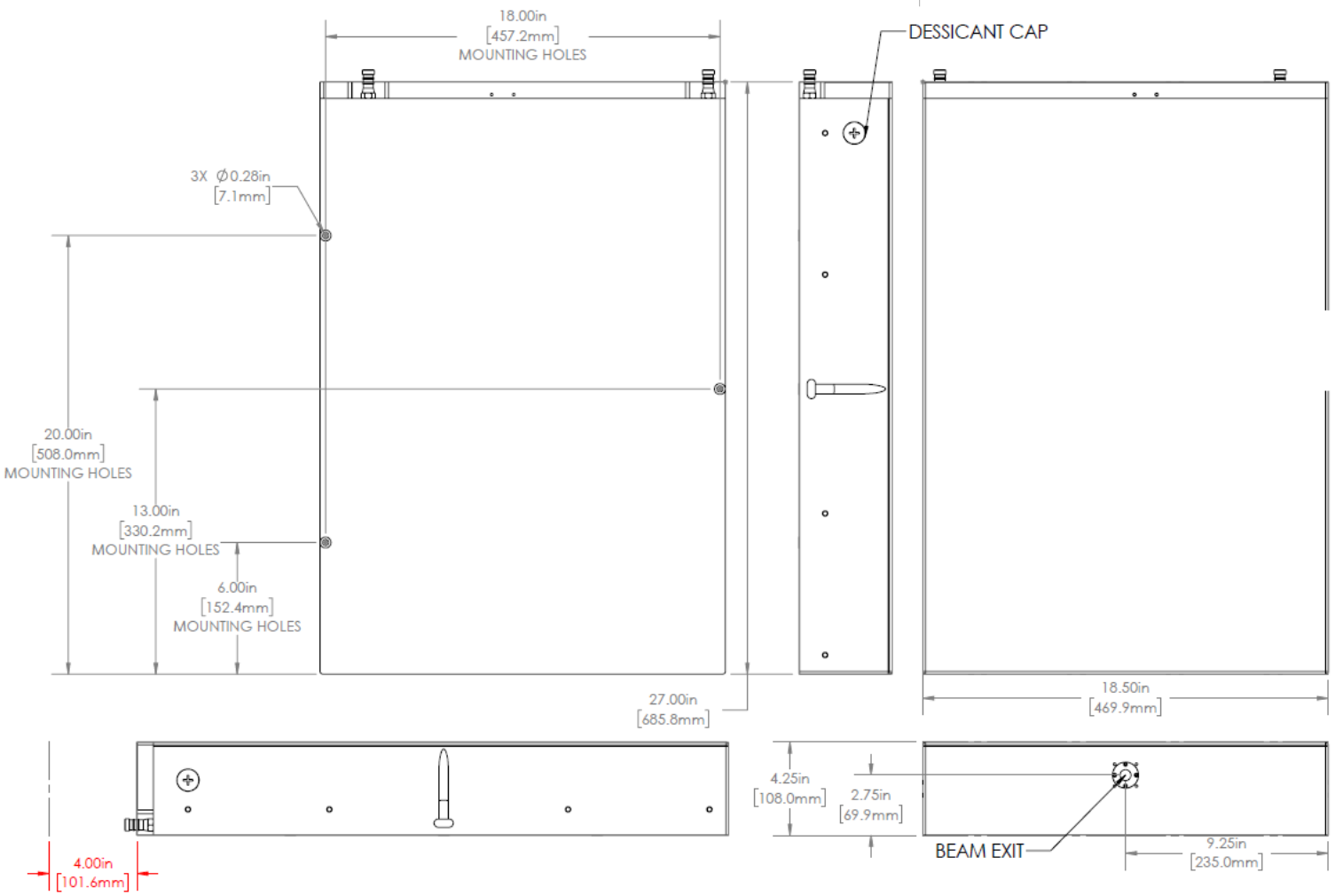


Dimensional Drawings

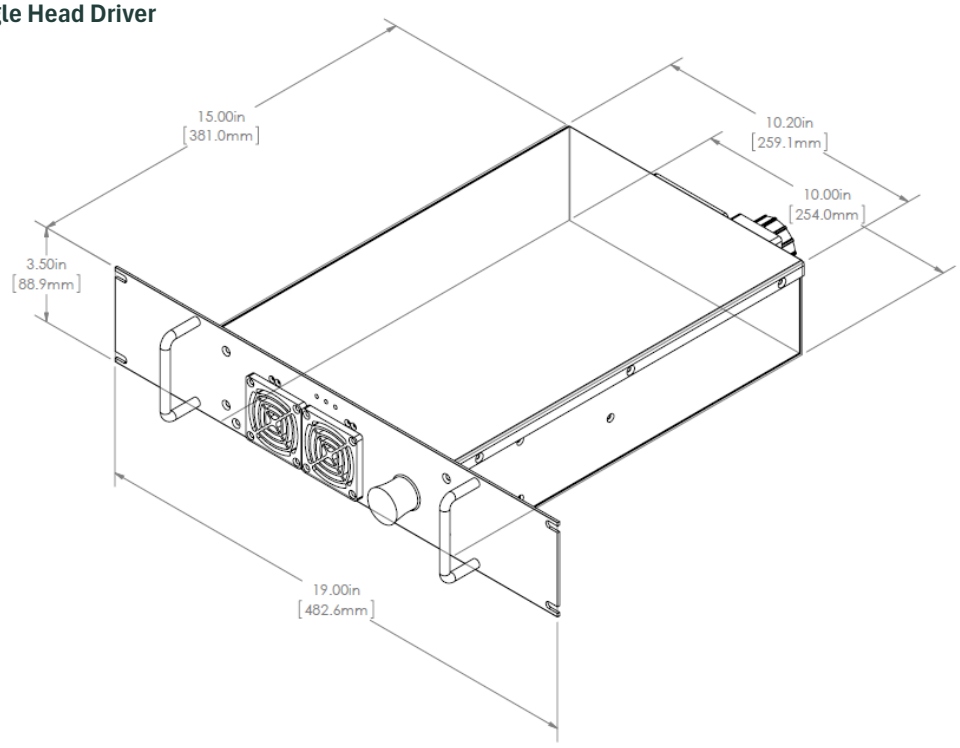
DM2-527-100



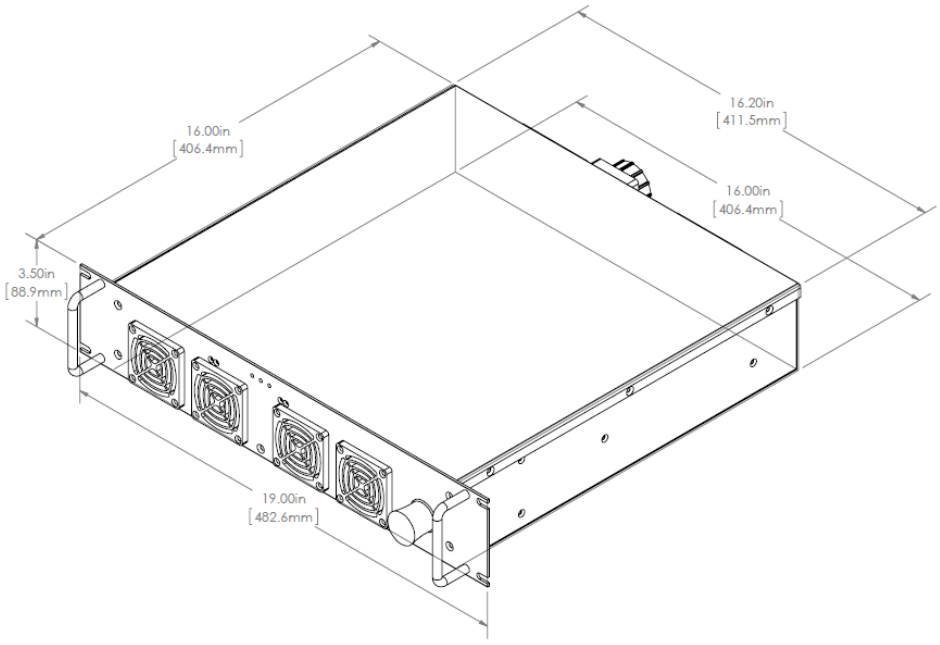




DM Single Head Driver



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

Photonics Industries International, Inc.

RoHS Compliant

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