COHERENT®

MATRIX 355

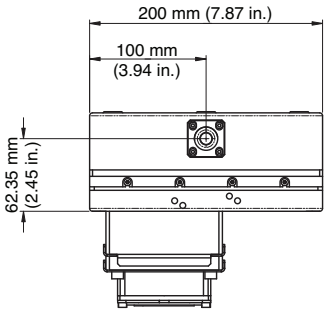
Solid-State, Q-Switched Laser

Features

- Superior optical performance
- Complete control over pulse energy and timing
- PermAlign™ solder-bonded optics technology for permanent optimal alignment and ultra-robustness
- Robot-assisted, cleanroom-built and hermetically sealed
- AAA™ (Aluminum-free Active Area) pump diodes for unmatched lifetime
- Best reliability, lifetime and unit-to-unit consistency
- Virtually no downtime, maintenance-free operation over thousands of hours

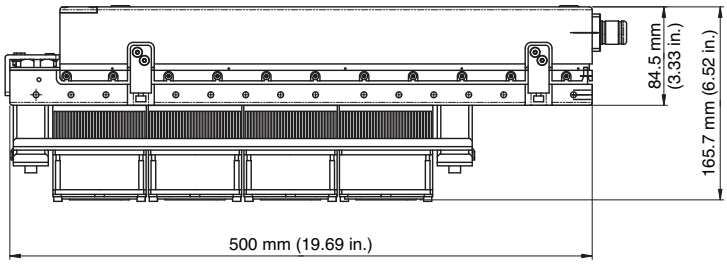
Mechanical Specifications

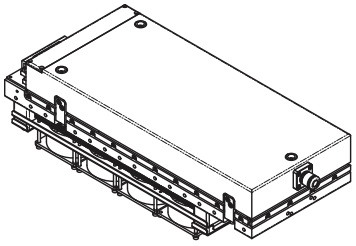
Laser Head

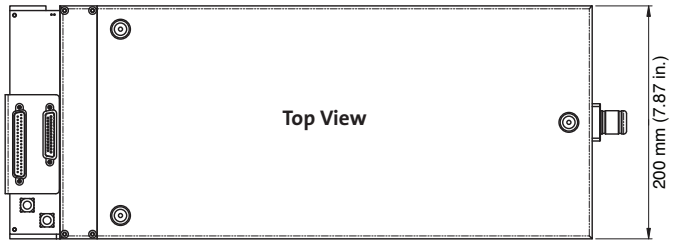


Front View

Side View







Superior Reliability & Performance

MATRIX™ 355

Solid-State, Q-Switched Laser

System Specifications

	355-0.5-60[1]	355-1-60[2]	355-1.5-70[3]	355-1-60 BE[2,4]
Average Power (W)	0.5 at 60 kHz	1 at 60 kHz[5]	1.5 at 70 kHz	1 at 60 kHz
Recommended Power Range	70 to 100%	50 to 100%	50 to 100%	50 to 100%
Pulse Repetition Rate[6] (kHz)	up to 100			
Pulse Duration (nsec)	<30	<25	<30	<25
Pulse Energy Stability (rms)	<5%	<4%	<4%	<4%
Beam Parameters (nominal)	0.23 mm and <2.8 mrad			2.2 mm and <0.5 mrad
Circularity	>90%			
Spatial Mode	TEM_{00}			
Output Power Stability (8h/±3°)	±2%			
Temperature Range (baseplate)	15°C to 50°C			
Maximum Heat Load (W)	<350			
Static Alignment	±0.2 mm, ±2 mrad			±0.5 mm, ±5 mrad
Maximum Warm-Up Times				
from cold start	<20 minutes			
from warm start	<5 minutes			

Environmental Specifications

	Operating	Non-Operating
Temperature	15°C to 40°C	-20°C to 50°C
Altitude	0 to 10,000 ft.	0 to 45,000 ft.
Relative Humidity (non-condensing)	0 to 90%	0 to 95%
Shock	±1g EN 60068-2-6	6 ms EN 60068-2-26

Power Supply Specifications

Power Supply Dimensions (H x W x D)	100 x 131 x 335 mm (3.9 x 5.2 x 13.2 in.) open-frame PCB; can be mounted in 3HE 19-in. rack mount	
External Control	RS-232 interface, TTL QS control	
Input Power Requirements		
Input Voltage	90 to 240 VAC, 50 to 60 Hz	
Input Power	maximum	typical
Power Supply	750 VA	≤350 VA

[1] 355 - Wavelength (nm); 0.5 - Specified Power (W); 60 - Specified PRF (kHz).
[2] 355 - Wavelength (nm); 1 - Specified Power (W); 60 - Specified PRF (kHz).
[3] 355 - Wavelength (nm); 1.5 - Specified Power (W); 70 - Specified PRF (kHz).
[4] AVIA Ultra 2000 compatible beam parameters through internal beam expander (BE).
[5] Average power: 2.0W at 20 kHz.
[6] Recommended range: 20 to 80 kHz.

Coherent follows a policy of continuous product improvement. Specifications are subject to change without notice.

Coherent's scientific and industrial lasers are certified to comply with the Federal Regulations (21 CFR Subchapter J) as administered by the Center for Devices and Radiological Health on all systems ordered for shipment after August 2, 1976.

Coherent offers a limited warranty for all MATRIX lasers. For full details of this warranty coverage, please refer to the Service section at www.Coherent.com or contact your local Sales or Service Representative.

COHERENT®

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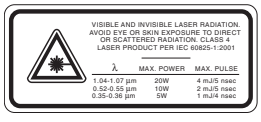

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ISO 9001:2000 Registered