COHERENT®

MATRIX 1064 and 532

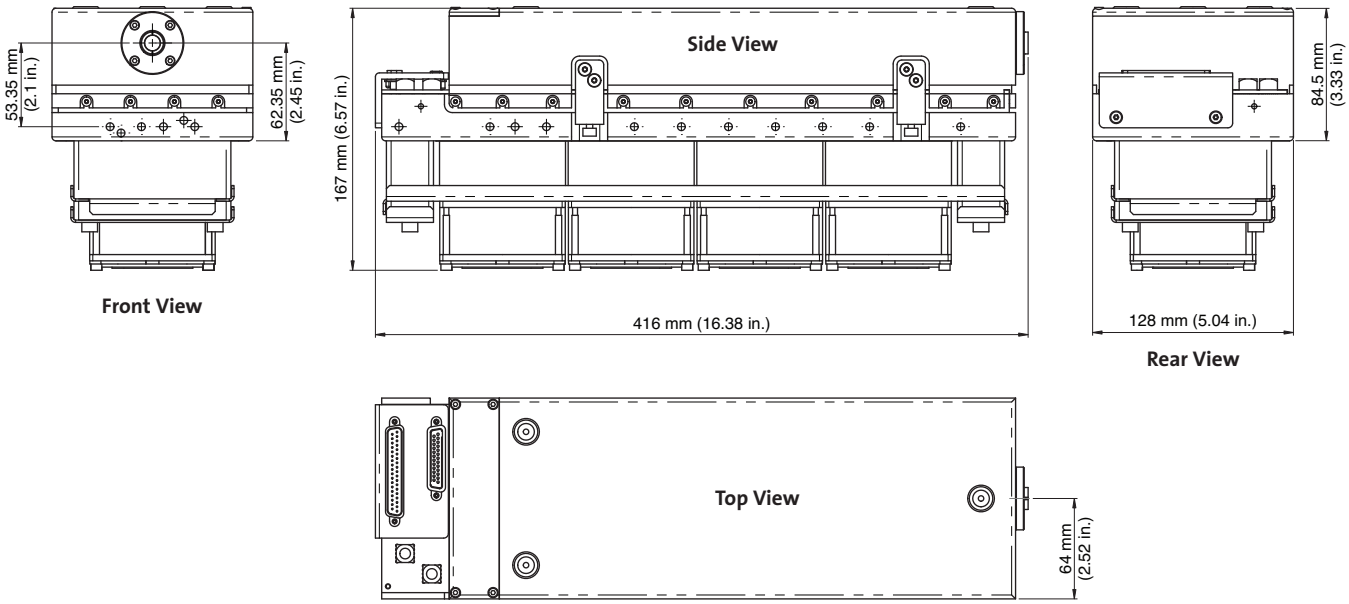
Solid-State, Q-Switched Laser

Features

- Superior optical performance
- PermAlign™ solder-bonded optics technology for permanent optimal alignment and ultra-robustness
- AAA™ (Aluminum-free Active Area) pump diodes for unmatched lifetime
- Robot-assisted, clean room built and hermetically sealed
- Compact, air-cooled design for easy OEM integration (water-cooling optional)
- Best reliability, lifetime and unit-to-unit consistency

Mechanical Specifications

Laser Head



Superior Reliability & Performance

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System Specifications

	1064-1-LP	1064-7-10[1]	1064-10-30[2]
Average Power (W)	1 at 1.4 kHz	7 at 10 kHz	10 at 30 kHz
Pulse Repetition Rate (kHz)(single-shot)	up to 10	up to 30	up to 100
Recommended Power Range (%)	80 to 100	20 to 100	20 to 100
Pulse Duration (nsec)	>40	<60	<40
Pulse Energy Stability (%)(rms)	<2	<1.5 at 5 kHz	<1.5
Beam Parameters[3] (nominal)	0.55 mm and <3 mrad	0.55 mm and <3 mrad	0.55 mm and <3 mrad
Circularity	>90%		
Spatial Mode	TEM_{00}		
Output Power Stability (8h/±3°)	±2%		
Temperature Range	15 to 50°C (baseplate)		
Maximum Heat Load (W)	<300	<300	<300
Static Alignment	±0.2 mm, ±2 mrad		
Maximum Warm-Up Times	<20 minutes cold start <5 minutes from warm start		

Environmental Specifications

Temperature			
Operating	15°C to 40°C	15°C to 40°C	15°C to 40°C
Non-operating	-20°C to 50°C	-20°C to 50°C	-20°C to 50°C
Altitude			
Operating	0 to 10,000 ft.		
Non-operating	0 to 45,000 ft.		
Relative Humidity (non-condensing)			
Operating	0 to 90%		
Non-Operating	0 to 95%		
Shock			
Operating	1g/6 ms EN 60068-2-6		
Non-Operating	25g/6 ms EN 60068-2-6		

Power Supply Specifications

Power Supply Dimensions (H x W x D)	open-frame PCB; can be mounted in 3HE 19 in. rack mount
532-14-40	100 x 210 x 325 mm (3.9 x 8.3 x 12.8 in.)
All other models	100 x 131 x 335 mm (3.9 x 5.2 x 13.2 in.)
External Control	RS-232 interface, TTL QS control
Input Power Requirements	
Input Voltage	90 to 240 VAC, 50 to 60 Hz
Input Power	
532-14-40	1200 VA (max.)/≤500 VA (typ.)
All other models	750 VA (max.)/≤350 VA (typ.)

[1] 1064 -Wavelength (nm); 7 - Specified Power (W); 10 - Specified Pulse Repetition Rate (kHz).
[2] 1064 -Wavelength (nm); 10 - Specified Power (W); 30 - Specified Pulse Repetition Rate (kHz).
[3] At waist.

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System Specifications

	532-7-30	532-8-100	532-14-40
Average Power (W)	7 at 30 kHz	8 at 100 kHz	14 at 40 kHz
Pulse Repetition Rate (kHz)(single-shot)	up to 100	up to 200	up to 200
Recommended Power Range (%)		80 to 100	
Pulse Duration (nsec)	<20	<35	<20
Pulse Energy Stability (%)(rms)		<2	
Beam Parameters (nominal)		0.23 mm and <4.2 mrad	
Circularity[3]		>90%	
Spatial Mode		TEM_{00}	
Output Power Stability (8h/±3°)		±2%	
Temperature Range		15 to 50°C (baseplate)	
Maximum Heat Load (W)	<300	<300	<450
Static Alignment		±0.2 mm, ±2 mrad	
Maximum Warm-Up Times		<20 minutes cold start <5 minutes from warm start	

Environmental Specifications

Temperature			
Operating	15°C to 40°C	15°C to 40°C	15°C to 30°C
Non-operating	-20°C to 50°C	-20°C to 50°C	-20°C to 50°C
Altitude			
Operating		0 to 10,000 ft.	
Non-operating		0 to 45,000 ft.	
Relative Humidity (non-condensing)			
Operating		0 to 90%	
Non-Operating		0 to 95%	
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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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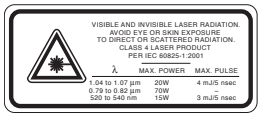

Printed in the U.S.A. MC-048-09-0M0211Rev.C

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