

Air-Cooled Argon-Ion Laser Heads in Cylindrical and Rectangular Packages

2211/14 Series



Lumentum's air-cooled argon lasers are designed for complex, high-resolution OEM applications such as flow cytometry, DNA sequencing, graphic arts, and semiconductor inspection. They are available in two packages:

Cylindrical Package

Symmetric design and axial airflow in the cylindrical argon ion laser heads provide the best mechanical package to ensure optimum beam-pointing stability and fast warm-up. Both initial installation and routine maintenance are straightforward due to tight production control of optical and mechanical tolerances. Blower-induced mechanical vibration is virtually eliminated through the use of flexible ducting between the laser head and blower assembly.

Rectangular Package

Industry-standard rectangular packaging and a variety of wavelength options ensure easy initial installation and field replacement for most applications. As with Lumentum cylindrical laser heads, rectangular models incorporate axial airflow for exceptional beam pointing stability and fast warm-up. A top-mounted fan assembly simplifies installation.

Key Features

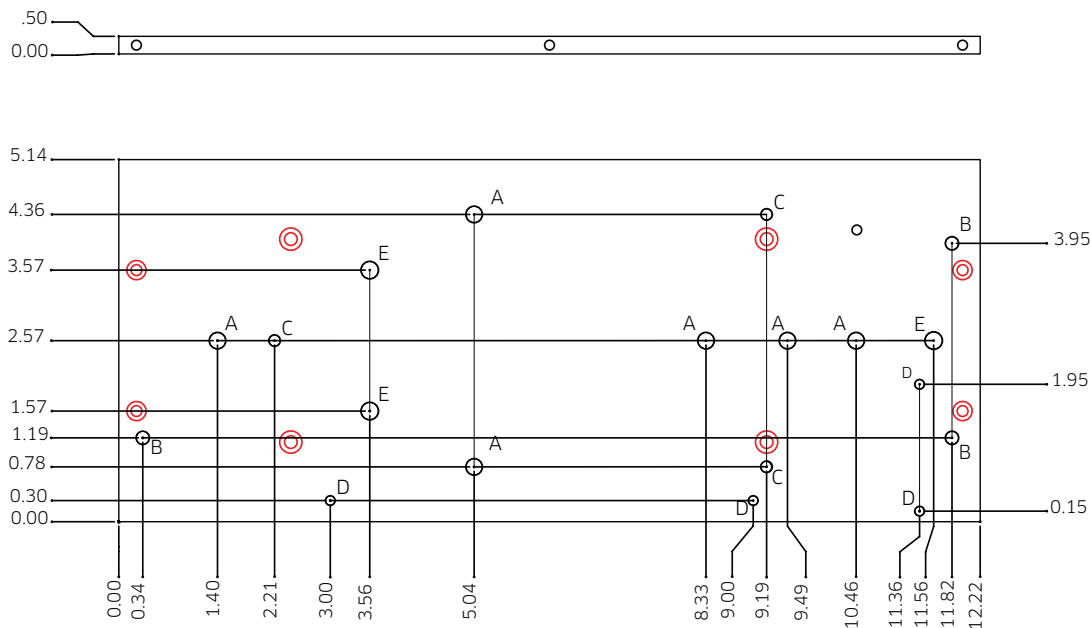
- Integral-mirror, metal-ceramic construction
- Hands-off operation
- Ultralow noise
- Fast warm-up
- Rugged construction
- Vibration isolation
- Ultrastable resonator and beam pointing

Applications

- DNA sequencing
- Flow cytometry
- Confocal microscopy
- Semiconductor inspection
- Hematology
- High speed printing
- Photo processing

2211 Series Base Plate

(Specifications in inches unless otherwise noted.)



Hole	Description
A	M6
B	10-32 UNC-2B
C	8-32 UNC-2B
D	6-32 UNC-2B
E	1/4-20 UNC-2B

Specifications

Parameter	2214 -xxSL	2214 -xxML ^{1,2}	2211 -xxSL
Optical			
Output power (TEM ₀₀ , mW)	10/20/30	25/40	20/30
Wavelength (nm)	488	458 to 515	488
Mode purity (TEM ₀₀)	>95%		
Beam diameter (1/e ² ±5%, mm)	0.70	0.71	0.70
Beam divergence (mrad ±5%)	0.90	0.90	0.90
Minimum polarization ratio	250:1		
Longitudinal mode spacing (MHz)	566		
Noise			
p-p, 20 Hz to 2 kHz		≤0.1%	
p-p, 20 Hz to 20 kHz		≤0.1%	
rms, 20 Hz 2 MHz		≤1.0%	
Maximum drift (light control mode over 2 hours)		≤1.0%	
Maximum warm-up timer (to 95% power, minimum)		5 minutes	
Beam pointing stability After warm-up (2 hours, 25±3°C)		<30 μRad	
CDRH class		IIIb	
Static alignment			
Beam position		±0.25 mm	
Beam angle		±2.5 mrad	
Environmental			
Temperature			
Operating		4 to 40°C	
Non-operating		-30 to 60°C	
Altitude			
Operating		0 to 10,000 feet	
Non-operating		0 to 70,000 feet	
Relative humidity (non-condensing)			
Operating		0 to 90%	
Non-operating		0 to 100%	
Shock			
Operating		25 g for 11 ms	
Non-operating		25 g for 11 ms	
Physical			
Weight	8.5 lbs.	8.5 lbs.	14 lbs
Umbilical length	72±2 inches		

1. For ML (multi-line) models, 458, 476, 488, 497, 502 and 515 nm wavelengths are present.

2. For 2214 models, nominal airflow is 52 CFM. Use Lumentum model 2402 or equivalent fan rated for 140 CFM free air and typical pressure head of 0.95 inches of water.

Ordering Information

For more information on this or other products and their availability, please contact your local Lumentum account manager or Lumentum directly at customer.service@lumentum.com.

Sample: 2214-10SL

Product Code	Description
2214-10SL	Argon laser head medium power, cylindrical package, 10 mW output power, single line operation at 488 nm
2214-20SL	Argon laser head medium power, cylindrical package, 20 mW output power, single line operation at 488 nm
2214-30SL	Argon laser head medium power, cylindrical package, 30 mW output power, single line operation at 488 nm
2214-25ML	Argon laser head medium power, cylindrical package, 25 mW output power, multiline operation at 458 to 515 nm
2211-20SL	Argon laser head medium power, rectangular package, 20 mW output power, single line operation at 488 nm
2211-30SL	Argon laser head medium power, rectangular package, 30 mW output power, single line operation at 488 nm

Warranty

The 2211/14 laser heads are warranted to be free from defects in materials and workmanship for 5,000 hours of operation at or below specified power or for 12 months from the date of shipment, whichever occurs first. All other components of the laser and power supply are warranted to be free from defects and workmanship for 12 months from the date of ship.

Regulatory Compliance

The products listed in this datasheet comply with the following regulatory standards, and display the certification and laser safety markings shown below. Contact your local Lumentum sales representative for additional information on specific products or configurations.

Regulatory Standards

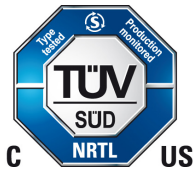
UL 61010-1

CAN/CSA C22.2 No. 61010-1

IEC/EN 61010-1

IEC/EN 60825-1

CDRH 21 CFR 1040.10



Safety certification markings

Laser safety warning labels



North America
Toll Free: 844 810 LITE (5483)

Outside North America
Toll Free: 800 000 LITE (5483)

China
Toll Free: 400 120 LITE (5483)

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