

AVIA LX

Solid-State Q-Switched Ultraviolet Lasers

AVIA LX is a 20 W (at 355 nm) diode-pumped, solid-state, Q-switched nanosecond laser that offers an unmatched combination of high reliability, superior performance, and low cost of ownership. This is achieved, in part, through the use of the Coherent PureUV™ active laser-cleaning engine to deliver exceptional lifetime and hands-free operation. These characteristics make AVIA LX an ideal tool for high throughput, demanding, yet cost sensitive applications such as via drilling in PCB and flex materials, cutting of flex materials, 3D chip package manufacturing, IC package trimming, and wafer scribing. For the system builder, AVIA LX offers effortless ease of integration into laser-based tools through its small footprint and a simplified interface.

FEATURES & BENEFITS

- Repetition rates single-shot to 100s of kHz
- High beam quality $M^2 < 1.2$
- Industry leading compact footprint
- Simplified user interface at laser head
- High reliability between long maintenance cycles

APPLICATIONS

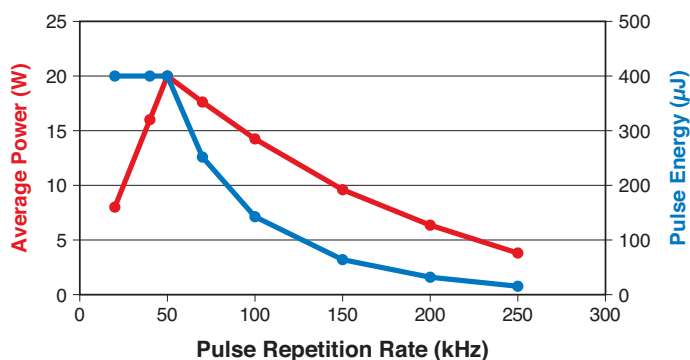
- Via Hole Drilling
- Flex Materials Cutting
- 3D Package Manufacturing
- IC Package Trimming
- Wafer Scribing and Singulation
- Solar Cell Scribing



SPECIFICATIONS ¹	AVIA LX 355-20
Fundamental Center Wavelength (nm)	354.7
Output Power (W) (specified)	>20 at 50 kHz
Output Power (W) (typical)	>15 at 100 kHz >10 at 150 kHz >5 at 200 kHz
Pulse Energy (μJ)	Up to 400
Repetition Rate	Single-shot to 300 kHz
Pulse Width (ns)	<25 at 50 kHz
Spatial Mode	TEM ₀₀ , M ² <1.3
Beam Divergence (mrad)	<0.5
Beam Waist Diameter (mm, 1/e ²)	1.5 ±10%
Beam Circularity (%)	>90
Polarization Ratio	>100:1
Polarization Direction	Vertical
Pulse Energy Stability (%) (RMS)	<4
Power Stability (%) (RMS, 2σ) (over 8 hours)	<2
Warm-up Time (minutes)	
Cold Start	<20
Warm Start	<5
Head Weight	12.5 kg (27.5 lbs.)
External Comms	RS-232, Ethernet, USB
Power Consumption (W) (VAC)	<600
OPERATING SPECIFICATIONS	
Temperature (non-condensing)	
Laser Head	+15 to 40°C (59 to 104°F)
Non-Operation (storage)	-20 to +60°C (-4 to 140°F)
Shipping Specifications	
Temperature	-20 to +60°C (-4 to 140°F)
Relative Humidity (%)	5 to 80
Optional Accessory	
Beam Expander	>2x
Chiller	>110V and 230V

¹ Defined as time to meet all specifications.

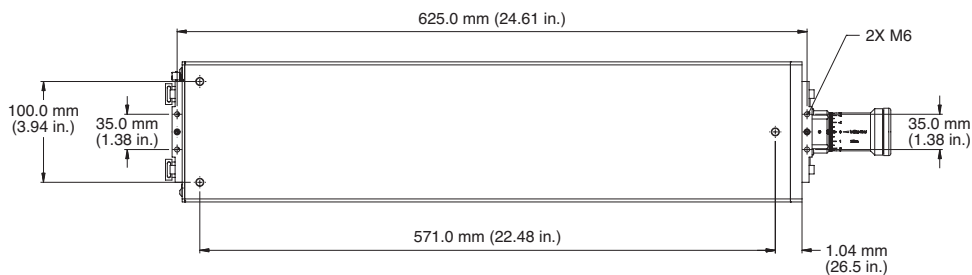
AVIA LX 355-20 Spec UV Performance



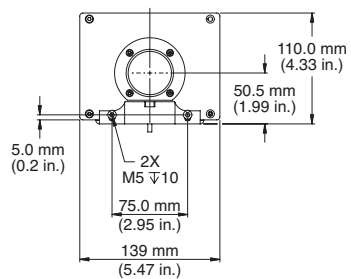
MECHANICAL SPECIFICATIONS

AVIA LX

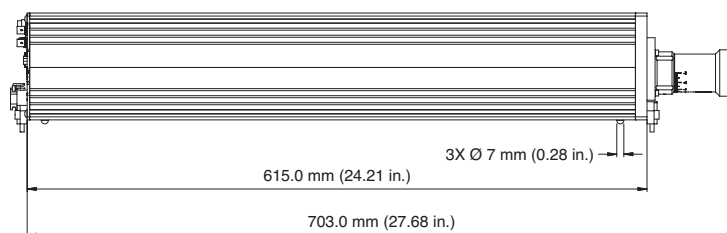
Top View



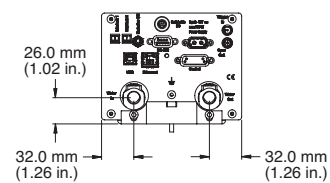
Front View



Side View



Rear View



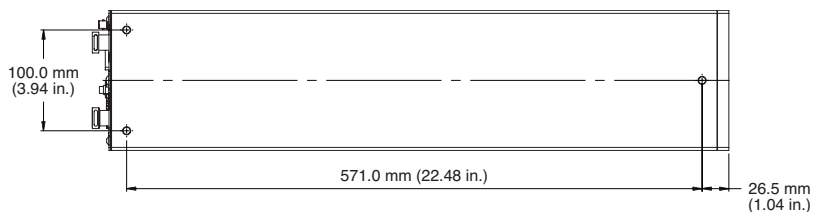
Bottom View



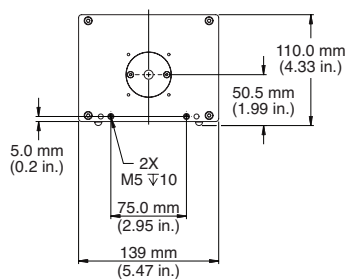
MECHANICAL SPECIFICATIONS

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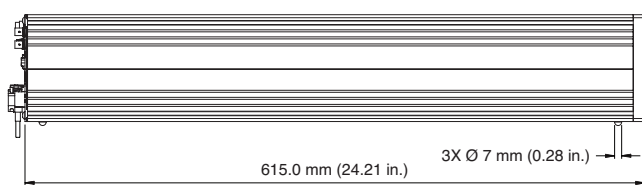
Bottom View



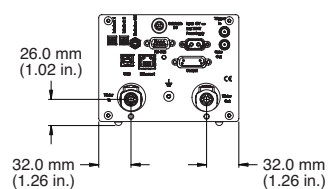
Front View



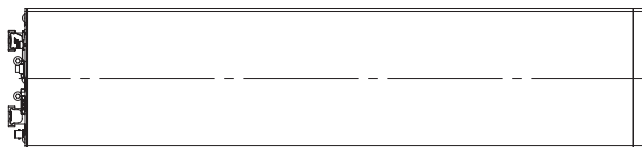
Side View



Rear View



Top View



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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 AVIA LX 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. MC-009-17-0M0818Rev.A Copyright ©2018 Coherent, Inc.