

PowerLine[®] AVIA NX

High-Power UV Laser Sub-System for Micromachining Applications

The PowerLine AVIA NX is an integrated class 4 sub-system ideal for a wide variety of micromachining applications such as cutting, scribing, and drilling.

It is available in power levels of 20 W and 40 W and ready to be integrated into existing handling systems.

It offers an unmatched average UV lifetime due to the proprietary PureUV™ active laser cleaning technology and sets superior levels of reliability and cost of ownership.

The PowerLine AVIA NX sub-system comes with a galvanometer scanner, optics, and software. Options include features such as a fast focusing module, internal power meter, through-the-lens alignment, and many others.

FEATURES & BENEFITS

- A superior alternative for mechanical dicing blades
- Ready-to-use solution
- High-Power UV (up to 40 W) enables high-speed processing
- Extended UV lifetime ensures low operating costs
- Configurable with many optional features

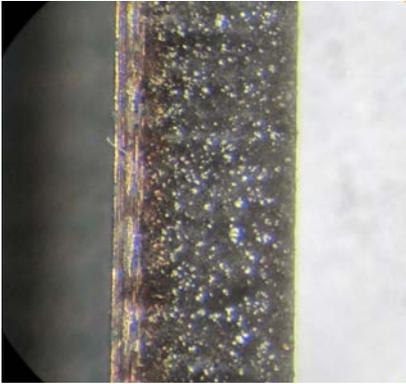
APPLICATIONS

- PCB Cutting
- IC Package Cutting
- Flex-PCB Cutting and Drilling
- Laser Lift-Off (LLO)
- System-in-Package Cutting
- Scribing and Trenching
- Wafer De-Bonding

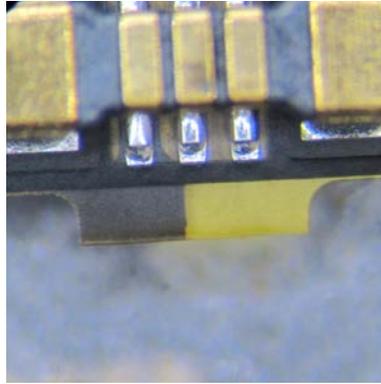


SPECIFICATIONS	AVIA NX 20-355	AVIA NX 40-355
Laser Wavelength (nm)	354.7	
Average Power (W)	20	40
Pulse Repetition Rate (kHz)	1 to 250	1 to 300
Beam Quality M ²	<1.3	
Pulse-to-Pulse Stability (% rms)	<5	
Pulse Energy (μJ)	200 at 100 kHz	308 at 130 kHz
Pulse Width (ns)	<30 (up to 100 kHz)	<35 (up to 130 kHz)
Peak Power (kW)	6.3 at 130 kHz	8.3 at 130 kHz
Beam Diameter at the Beam Output, typical (mm, 1/e ²)	3.50 ±0.35	
Polarization		
Ratio:	>100:1	
Direction:	±3	
Beam Ellipticity (%)	>85	
Electrical Cables Laser and Power Supply (m)		
Laser to Power Supply:	3 or 5	
Power Supply to Ext. Supply:	3	
ELECTRICAL POWER SUPPLY		
Voltage (V)	100 to 240	
ENVIRONMENTAL		
Operating Temperature		
Laser Head:	+10 to 35 °C (50 to 95 °F)	
Power Supply:	+10 to 35 °C (50 to 95 °F)	
Non-Operation (storage):	-20 to +50 °C (-4 to 122 °F)	
DIMENSIONS		
Standard Sub-System (W x H x L)	381 x 292 x 1280.5 mm (15.0 x 11.5 x 50.4 in.)	
CONFIGURATION		
Galvanometer Scanner		
F-Theta or Telecentric Lens		
Beam Alignment Box		
VLM Software		
Supply Unit		
OPTIONS		
Fast-Focusing Module		
Internal Power Meter		
Through-the-Lens Alignment		

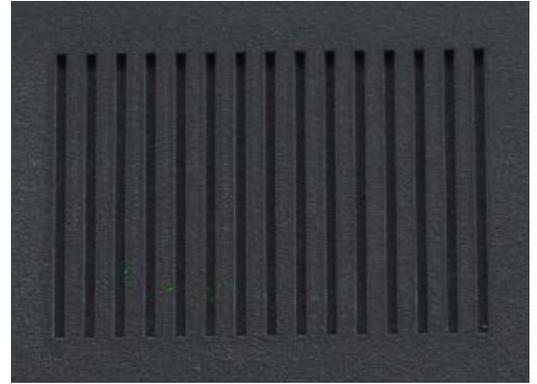
MICROELECTRONICS CUTTING AND TRENCHING



Cross-section of laser-cut PCB



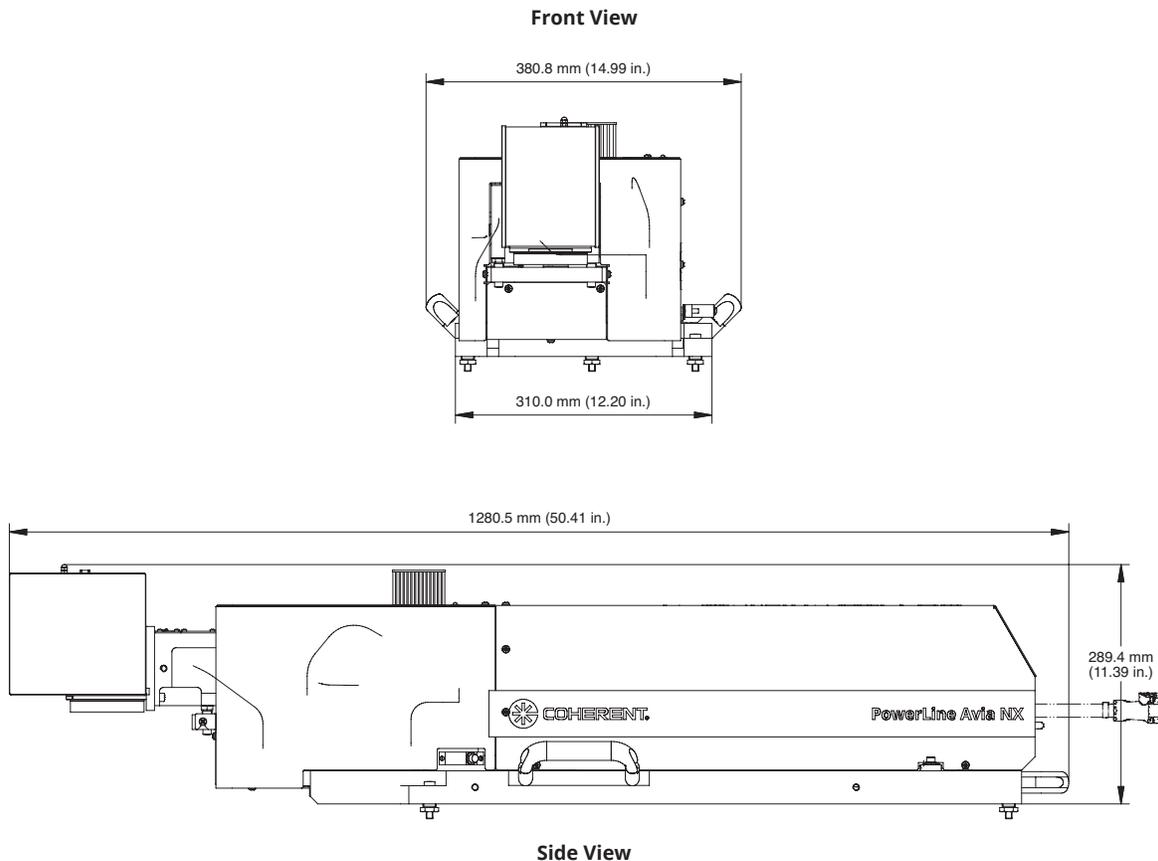
Cutting edge of PCB



Scribing lines in molding compound

MECHANICAL SPECIFICATIONS

PowerLine AVIA NX



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

Coherent offers a limited warranty for all PowerLine AVIA NX 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.
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