

OBIS XT

Powerful Compact CW DPSS Laser Platform

The new and powerful OBIS XT DPSS laser both extends and complements the wavelength range of the successful OBIS LS/LX and Sapphire lasers into the UV.

The lasers' compact size, integrated controller, and low heat dissipation simplify integration, saving time and costs. OEM and end-user configuration, as well as versatile interfacing with RS-232, RS-485, and USB provide exceptional flexibility and control in users' instruments and experimental set-ups.

With UV wavelengths of 360 nm and 349 nm, laser power of up to 150 mW, and industry-leading reliability, OBIS XT enables more applications in the field of life sciences.

Shorter UV of 320 nm with power levels of 20 mW and 40 mW enable more applications in life sciences and beyond.

Features and Benefits

- Integrated control electronics for a reduced footprint in instruments
- Low heat dissipation simplifies the integration into compact set-ups
- Perfect TEM₀₀ beam quality and low noise helps deliver more precise data
- 320 nm, 349 nm, and 360 nm and all their power levels in the same compact package support powerful applications without redesigning the instrument
- Versatile interfacing with RS-232, RS-485, and USB provides easy and flexible configuration

Applications

- Flow Cytometry
- Confocal Microscopy
- Genomics and Proteomics
- Semiconductor Inspection
- Metrology



SPECIFICATIONS

	OBIS 320 XT	OBIS 349 XT	OBIS 360 XT
Wavelength ¹ (nm)	320.2	348.8	360.4
Output Power ² (mW)	20, 40	20, 60, 100, 150	
Spatial Mode	TEM00		
Beam Quality (M ²)	≤1.1		
Beam Asymmetry	≤1:1.1		
Beam Diameter (mm) (1/e ²)	0.7 ±0.05		
Beam Divergence (mrad) (full-angle)	<0.7	<0.8	
Beam Pointing Stability (over 2 hours after warm-up and ±3°C) (μrad)	<30		
Beam Pointing Stability Over Temperature (μrad/°C)	<5		
Noise (% RMS) (20 Hz to 20 MHz)	≤0.25		
Peak-to-Peak Noise (%) (20 Hz to 20 kHz)	<1		
Long-Term Power Stability (%) (8 hours, ±3°C)	<2		
Warm-Up Time ³ (minutes) (from cold start)	<5		
Polarization Ratio	Minimum 100:1, Vertical ±5°		
Laser Drive Modes	CW, Computer Control, Coherent Connection Compatible		
Static Alignment Tolerances			
Beam Position from Reference ⁴ (mm)	<0.5		<0.5
Beam Angle (mrad)	<2.5		<2.5
Beam Waist Position at Exit Window (mm)	±300		±250
Laser Safety Classification ⁵	3B / 4		
Power Consumption (W)	Typical 18, Max. 42		
Laser Head Baseplate Temperature (Maximum, °C)	45 at 35 ambient on OBIS XT Heat Sink		
Heat Dissipation of Laser Head ⁶ (W)	Typical 18, Max. 42		
Ambient Temperature			
Operating Condition ⁷	10 to 35 °C (50 to 95 °F)		
Non-Operating Condition ⁸	-20 to +60 °C (-4 to 140 °F)		
Shock Tolerance (6 ms)	7 g laterally, 15 g vertically		
UTILITY AND ENVIRONMENTAL REQUIREMENTS			
Operating Voltage ⁹ (VDC)	12 ±2		
Dimensions (L x W x H)			
Laser Head	125.0 x 70.0 x 36.5 mm (4.92 x 2.76 x 1.44 in.)		
Weights			
Laser Head	450 g (0.99 lbs)		

¹ Laser-to-laser tolerance, wavelength in air, all OBIS XT versions ±1 nm.

² Specifications are valid for 100% power. Residual laser emission at 697.6/720.8 nm fundamental within beam at 100 mm distance < 0.1 mW.

³ For XT versions typical power-on delay 1 minute.

⁴ See mechanical drawing for exit beam location.

⁵ Laser safety class 4 for 150 mW.

⁶ Max. 42 W for 150 mW OBIS XT laser.

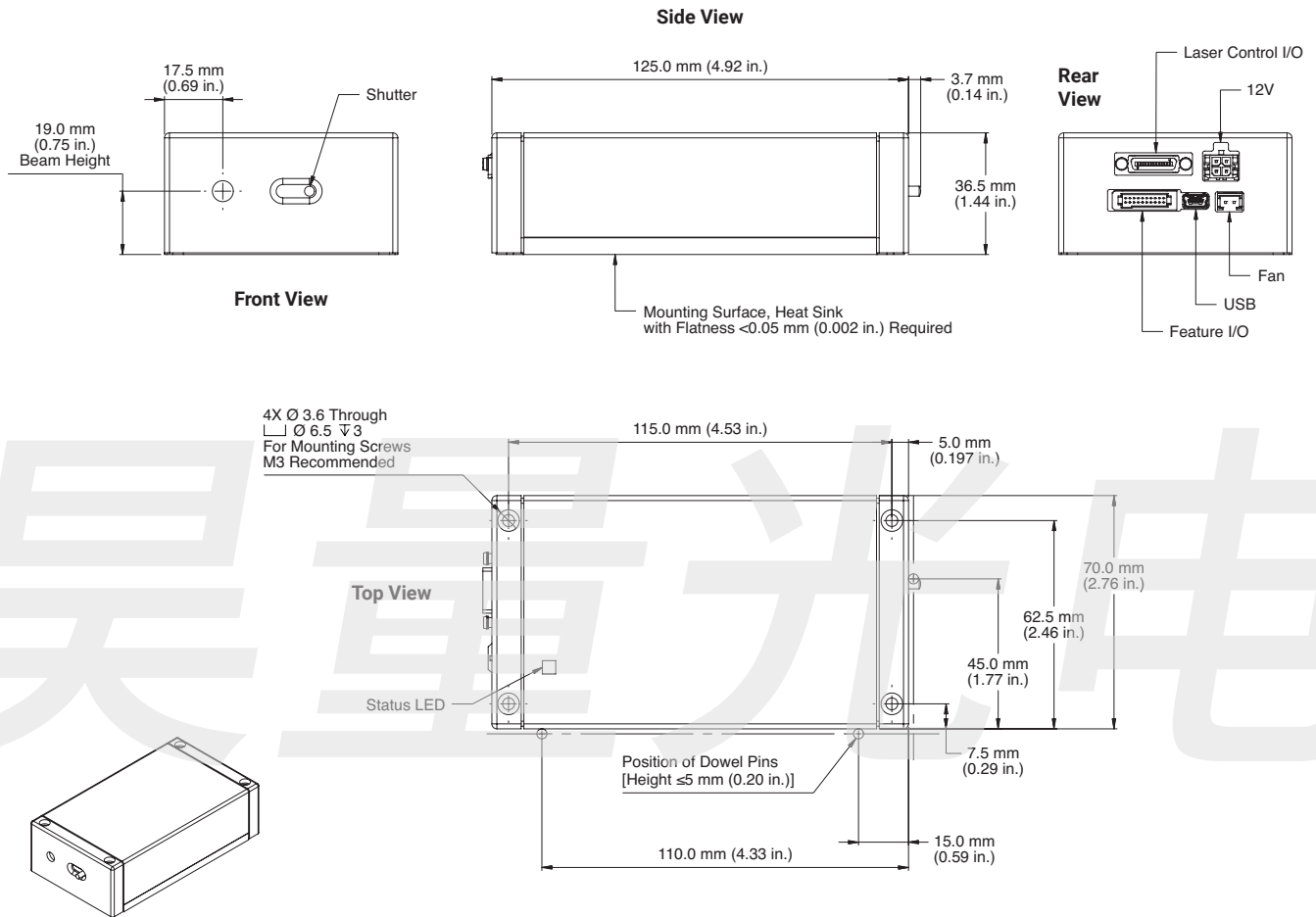
⁷ Non-condensing with OBIS XT or other equivalent heat sink.

⁸ Non-condensing.

⁹ DC power supply has to meet the following requirements: power >50 W, ripple <5% peak-to-peak; line regulation <0.5%.

MECHANICAL SPECIFICATIONS

OBIS XT



Coherent, Inc.,
 5100 Patrick Henry Drive Santa Clara, CA 95054
 p. (800) 527-3786 | (408) 764-4983
 f. (408) 764-4646

tech.sales@coherent.com www.coherent.com

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 OBIS XT 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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