



Offered by
LASER LAB SOURCE

manufactured by  **COHERENT**

Turn-Key Blue Laser Source System 488nm, 100mW Fiber-Coupled Output



OBIS LX 488nm 100mW Turn-Key Laser Source System

- o Semiconductor Laser Convenience, Reliability, and Functionality
- o Single-Mode, Polarization-Maintaining Fiber with FC/APC Connector
- o Fast and Easy Setup, Turn-Key Operation
- o Analog and Digital Modulation Capable
- o Remotely Operated with USB and RS-232 Interface and Included Software



INDUSTRY-LEADING BLUE LASER DIODE SOURCE MODULE

Coherent has developed industry-leading semiconductor-based blue laser technology to deliver outstanding beam quality and output stability, and providing the industry-best laser reliability and performance. These units are shipped fully calibrated & pre-tested with the matching power supply and remote controller as well as the required interface cables.

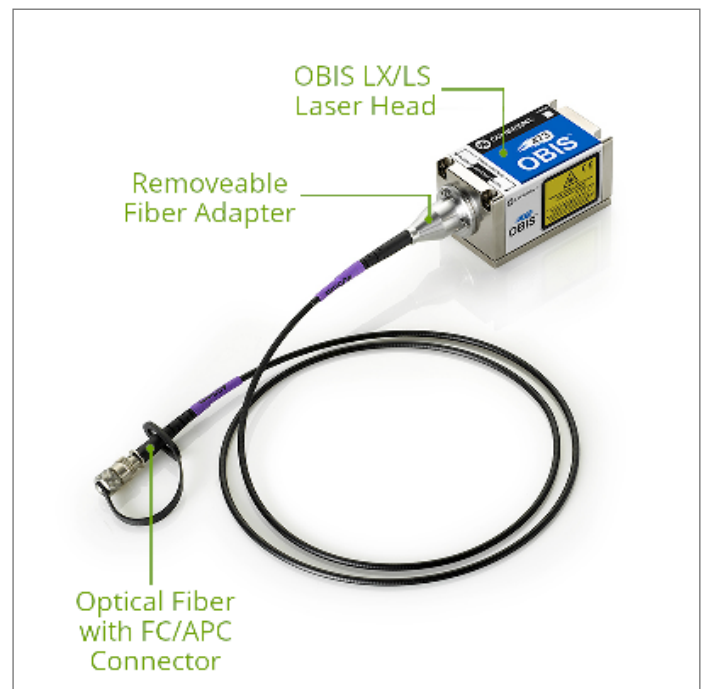
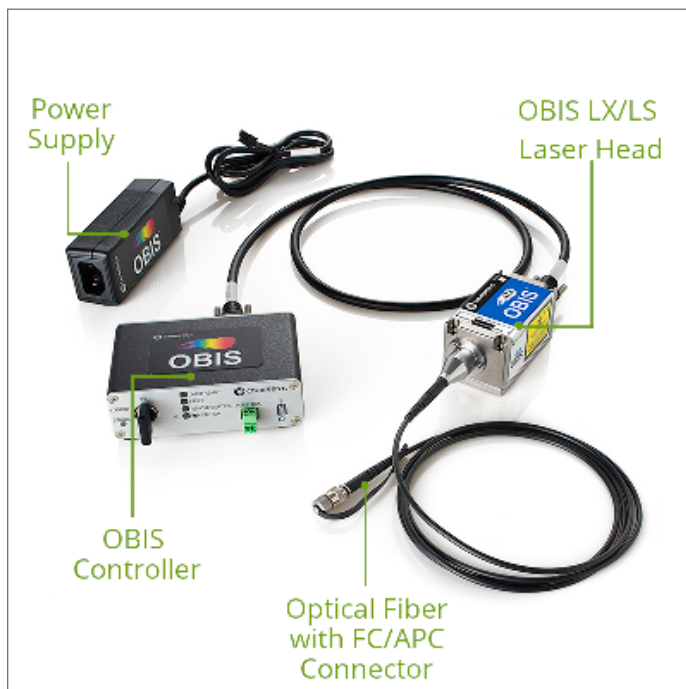
The OBIS LS and LX laser heads are identical in form factor and control function, and are easily interchanged in operating systems when application requirements change.

THE ULTIMATE IN PLUG-AND-PLAY SIMPLICITY

The laser heads are driven via the OBIS remote controller, which combines essential functions into one super-compact control unit: computer interface (USB and RS-232), laser on/off control, power conditioning, laser status indicators, and digital and analog modulation inputs. All interconnect cables are included, as well as the FC/APC terminated optical fiber output cable.

BUILT-IN SAFETY FEATURES FOR SYSTEM LONGEVITY

The OBIS controller integrates multiple safety features to ensure a long operating lifetime and to help protect the user during laser operation. The interlock connection allows an external safety switch to be implemented so the laser is operated only when it is safe. The front panel of the OBIS controller includes a Fault indicator, as well as a Laser Ready and Laser On indicator. A connector is included for driving a cooling fan, and the laser head can be mounted to the OBIS heatsink for easily integrated temperature stabilization.





OBIS LX 488nm 100mW COMPLETE PERFORMANCE SPECIFICATIONS

OUTPUT SPECIFICATIONS

- Wavelength: 488 nm (± 5 nm)
- Wavelength Color: Blue
- Output Power: 100 mW, User Adjustable
- Warm-Up Time: 5 min
- Laser Drive Modes: CW, Analog Modulation, Digital Modulation and Computer Control
- 488nm Fiber-Coupled System also Available at 30mW Output Power

OPTICAL FIBER SPECIFICATIONS

- Fiber Numerical Aperture (NA) ($1/e^2$): 0.05
- Fiber Output Connector: FC/APC, 8° Angled*
- Fiber Cable Type: 3mm Mono Coil
- Fiber Cable Length: 1 m (min)
- Fiber Core Diameter: 3.5 μ m
- Minimum Fiber Bend Radius: 51 mm
- Maximum Fiber Tensile Load: 1 kg (2.2 lb)
- * Connector is not suitable for patchcord-to-patchcord connections

OPTICAL BEAM AND OUTPUT SPECIFICATIONS

- M2 Beam Quality: 1.1 (Beam Quality at 90/10 Clip Levels)
- Beam Asymmetry: 90% Minimum
- Spatial Mode: TEM00
- RMS Noise, 20 Hz to 20 MHz: $\leq 0.2\%$
- Peak to Peak Noise, 20 Hz to 20 MHz: $\leq 2\%$
- Long Term Power Stability (8 hrs, $\pm 3^\circ\text{C}$): $< 2\%$
- Long Term Output Power Average: $\leq 4/1000\%$
- Polarization Ratio: Minimum 100:1



MODULATION SPECIFICATIONS

- **Digital Modulation**
- Digital Modulation Connector: SMB Connector, 0 V to 3 V, 50 Ω input impedance
- Maximum Bandwidth: 150 MHz
- Rise Time (10% to 90%): < 2 nsec
- Fall Time (90% to 10%): < 2 nsec
- Modulation Extinction Ratio: >1,000,000:1 at 0 Hz, >250:1 at 150 MHz
- **Analog Modulation**
- Analog Modulation Connector: SMB Connector, 0V to 5V, 50 Ω or 2000 Ω input impedance
- Maximum Bandwidth: 500 kHz
- Rise Time (10% to 90%): < 700 nsec
- Fall Time (90% to 10%): < 700 nsec
- Modulation Extinction Ratio: >1,000,000:1

GENERAL SPECIFICATIONS

- Laser Safety Classification: 3b
- ESD Protection: EN61326-1
- Power Consumption: 5 W (typ), 13 W (max)
- Max Laser Head Baseplate Temperature: 50°C (LX versions)
- Max Laser Head Baseplate Temperature: 40°C (LS versions)
- Operating Temperature: 10°C to 50°C (non condensing)
- Storage Temperature: -20°C to 60°C (non condensing)

UTILITY AND ENVIRONMENTAL REQUIREMENTS

- Operating Voltage: 12 VDC
- Safety: Key-Switch and Interlock Connection
- Laser Head Dimensions: 70 x 40 x 38 mm (2.75 x 1.57 x 1.5 in.)
- OBIS Remote Dimensions: 105 x 68 x 36 mm (4.13 x 2.68 x 1.42 in.)
- DC Power Supply Dimensions: 105 x 42 x 33 mm (4.13 x 1.65 x 1.3 in.)
- Laser Head Weight: 0.23 kg (0.5 lb)
- OBIS Remote Weight: 0.23 kg (0.5 lb)
- DC Power Supply Weight: 0.36 kg (0.79 lbs.)
- USB Control Interconnection: USB 2.0, Mini-B
- RS-232 Control Interconnection: RS-232, 11.2 k
- Remote to Laser Connection: 1 m Cable, included



OBIS LS LASER SOURCE SYSTEM

The 488nm OBIS laser system is available in the LS version, and offers slightly different performance to the LX OBIS system. The fiber-coupled LS system is available in a wide range of output powers, and provides even better noise performance than the LX system.

The availability of the LS option provides even greater application flexibility.

OBIS LS VERSION SPECIFICATIONS

- The 488nm OBIS LS System is also available:
- Output Power Options: 15 mW, 40 mW, 60 mW, 80 mW, 120 mW
- Fiber NA: 0.06 (NA = 0.1 for 15 mW Output)
- Fiber Cable Type: 5 mm Protective Tubing
- Digital Modulation Bandwidth: 0.05 MHz
- Digital Modulation Depth: Infinite at 0Hz to 50kHz
- Digital Rise/Fall Times: < 18,000 / < 2,000 ns
- Analog Modulation Bandwidth: 100 kHz
- Analog Modulation Depth: >50:1
- Analog Rise/Fall Times: < 3,000 / < 3,000 ns
- Additional Specifications Apply; Inquire for Details



OBIS SYSTEM OPTIONS AND ACCESSORIES

The OBIS laser systems are available with a wide range of accessories to expand the functionality of the systems and improve your productivity.

FAN-COOLED HEATSINK

The fan-cooled heatsink provides an inexpensive and effective way to mount the OBIS laser in a wide range of applications, and remove waste heat for stable output. The 12 V fan connects directly to the fan control output on the OBIS laser head.



SIX-LASER SIMPLE REMOTE CONTROLLER

A basic six-laser controller is available for CW applications where simplified benchtop control is required. The lasers can be controlled via illuminated on/off switches, and the laser heads can be interfaced by the USB connections on the heads.



FULL-FEATURED SIX-LASER REMOTE CONTROLLER

The full-featured scientific benchtop controller provides independent control of up to six LS/LX laser heads, and includes modulation inputs on the instrument front face. The controller is operated via the front-panel touch screen, USB, RS-232, or Ethernet interface.



INTEGRATED FIVE-LASER SYSTEM

The five-laser mounting system provides thermal management, cooling fans, analog and digital modulation inputs, and computer control interface all in one convenient box. The five-laser system streamlines development and deployment of multi-wavelength analytical systems by combining all the critical control functions in one compact format.





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PRODUCT SALES AND SERVICE:

Orders for this product are fulfilled by Laser Lab Source in North America and select international regions. It is manufactured by Coherent, California, USA.

PRODUCT WARRANTY:

This product is sold with a full one-year warranty. It is warranted to be free from defects in material and/or workmanship for a period of one year from the date of shipment.



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