

OBIS Galaxy Integrated System

8-Wavelength, One Fiber Output Illumination System

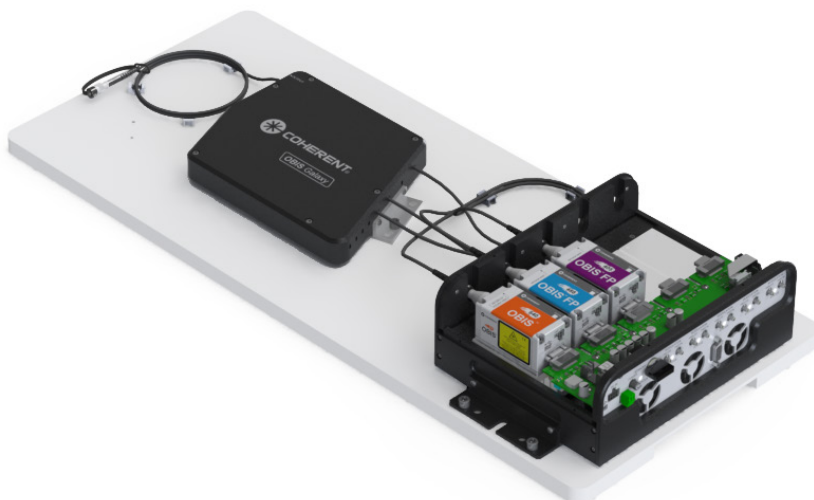
The flexible and modular design of the OBIS Galaxy Integrated System enables users to combine up to eight predetermined wavelength OBIS lasers into one fiber. The base model comes pre-loaded with three OBIS lasers (405 nm, 488 nm, and 640 nm) and has the ability to incorporate up to five additional lasers including 445 nm, 514 nm, 532 nm, 561 nm, and 590 nm. The fiber output of the combined lasers comes in a 2-meter single-mode polarization-maintaining fiber with an FC/APC connector.

FEATURES & BENEFITS

- Plug-and-play 8-input, single-output beam combiner
- Compact and low profile
- High-transmission beam combiner with typical 60% throughput per channel
- Fiber FC/APC output connector

APPLICATIONS

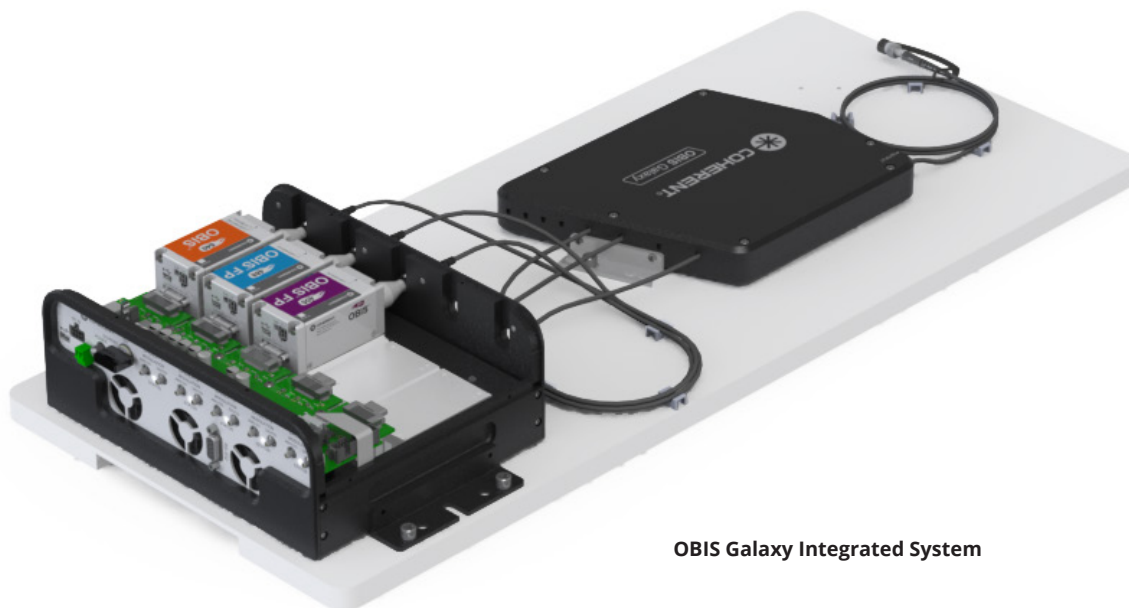
- Optogenetics
- Endoscopy
- Microscopy
- Cytometry
- Genomics



OBIS Galaxy Integrated System, Base Model	Part Number 1311750
As a turnkey configuration the OBIS Galaxy Laser Combining System includes:	
1. OBIS Galaxy, compatible with 405 nm, 445 nm, 488 nm, 514 nm, 532 nm, 561 nm, 590 nm, 640 nm	1253555
2. Laser Box including power supply and control software	1228877
3. OBIS 405 nm LX 50 mW Fiber Pigtailed Laser	1236438
4. OBIS 488 nm LX 30 mW Fiber Pigtailed Laser	1236443
5. OBIS 640 nm LX 75 mW Fiber Pigtailed Laser	1236445
Optional Lasers for OBIS Galaxy Integrated System	Part Number
OBIS FP LX 445 nm LX 45 mW Laser: Fiber Pigtail: UFC, Galaxy, 444 nm to 446 nm	1236441
OBIS FP LX 514 nm LX 50 mW Laser: Fiber Pigtail: UFC, Galaxy, 513 nm to 515 nm	1311150
OBIS FP LS 532 nm LS 80 mW Laser: Fiber Pigtail: UFC, Galaxy, 531 nm to 533 nm	1276599
OBIS FP LS 561 nm LS 80 mW Laser: Fiber Pigtail: UFC, Galaxy, 560.5 nm to 562.5 nm	1275608
Sapphire 588-FP UFC OEM Laser System, 40 mW, Galaxy, 587 nm to 589 nm	1276188

OBIS Galaxy Integrated System, Base Model

The OBIS Galaxy Integrated System pictured below (part number 1311750) is assembled, tested, and shipped on a 711 x 305 mm (28 x 12 inch) plate. Add additional OBIS or Sapphire lasers (see **Optional Lasers for OBIS Galaxy Integrated System** table above) separately to increase your system capabilities.



OBIS Galaxy Integrated System

SPECIFICATIONS ¹	OBIS Galaxy Laser Combiner for the Integrated System (Part Number 1253555)
8 Input Fiber Connections ² (nm)	405 445 488 514 532 561 590 640
Power Throughput ³ (%) (when used with OBIS Galaxy compatible lasers) for 405 nm to 590 nm for 640 nm	>45, typical >60 >55, typical >70
Maximum Power Per Channel (mW)	100
Maximum Total Output Power (mW)	<500
RMS Noise (%) (20 Hz to 2 MHz)	<0.5
Peak-to-Peak Noise (%) (20 Hz to 20 kHz)	<2
Fiber Connector Type (input connectors)	FC form-factor, ultra-flat contact FC/UFC with extended-life interface, anti-reflection (AR) coated tip
Polarization Extinction Ratio Loss (%)	<50
Long-term Power Throughput (%) (8 hours, ±3°C)	>95
Long-term Power Throughput (%) (average)	≤2 over 1000 hours
OUTPUT FIBER	
Fiber Connector Type ⁴ (distal end) FC/APC	8° angled, with extended-life interface
Fiber Cable Type	3 mm mono-coil
Fiber Cable Length (m) (minimum)	2
Fiber Numerical Aperture (NA) (1/e ²) FC/APC	0.055
Mode Field Diameter (μm) (typical)	3
Spatial Mode	TEM ₀₀
M ² (Beam Quality) ⁵	≤1.1
Fiber Minimum Bend Radius	51 mm (2.0 in.)
Fiber Tensile Load (maximum)	1 kg (2.2 lbs.)
Fiber Connector Type (to OBIS Galaxy)	FC form-factor, ultra-flat contact FC/UFC with extended-life interface
UTILITY AND ENVIRONMENTAL REQUIREMENTS	
Dimensions	229 x 170 x 29 mm (9.0 x 6.7 x 1.1 in.)
Weight	1.4 kg (3 lbs.)
Shock Tolerance ⁶ (g) (11 ms)	30
Vibration ⁶ (g-RMS) (20 Hz to 2 kHz)	7.7
Ambient Temperature Operating Temperature Storage Temperature	10 to 50°C (50 to 122°F) ⁷ -20 to 60°C (-4 to 140°F)
Laser Safety Classification ⁸	N/A

¹ System specifications measured at 25°C.

² All input channels require a ±1 nm center wavelength tolerance. Required wavelength tolerances specifically: 405 nm with 404 nm to 406 nm, 445 nm with 444 nm to 446 nm, 488 nm with 487 nm to 489 nm, 514 nm with 513 nm to 515 nm, 532 nm with 531 nm to 533 nm, 561 nm with 560.5 nm to 562.5 nm, 590 nm with 587 nm to 589 nm, 640 nm with 641 nm to 643 nm.

³ The OBIS Galaxy Beam Combiner as tested and certified will be >60% power transmission per wavelength as measured with production tooling fixtures.

⁴ Fiber connector output not compatible for patchcord-to-patchcord connection.

⁵ M² measured with ModeMaster with 90/10 Clip Levels.

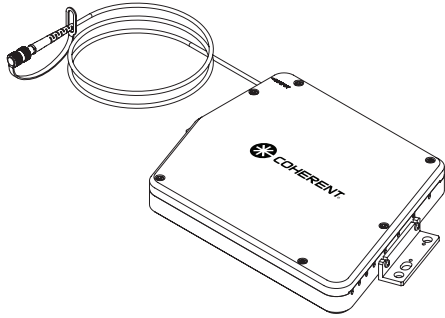
⁶ Non-Operational with a before/after change of <10%.

⁷ OBIS LS laser with Operating Temperature of 15 to 40°C (59 to 104°F).

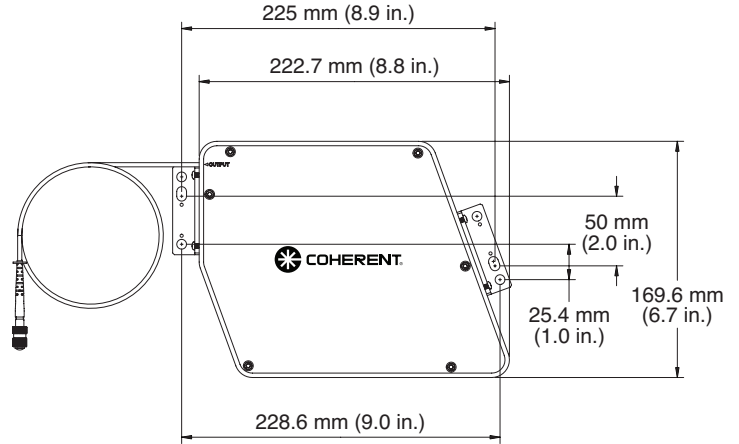
⁸ OBIS Galaxy is not a laser and therefore the Laser Safety Classification is determined by the end-user and application. Refer to CDRH 21 CFR 1040 subchapter J or IEC 60825-1.

MECHANICAL SPECIFICATIONS

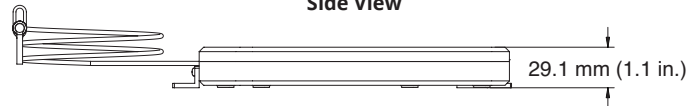
OBIS Galaxy



Top View

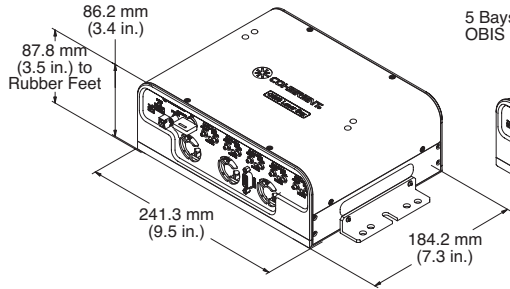


Side View

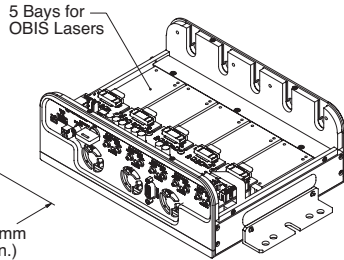


MECHANICAL SPECIFICATIONS

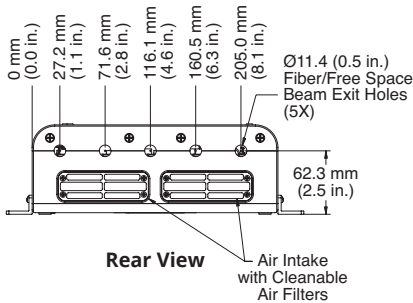
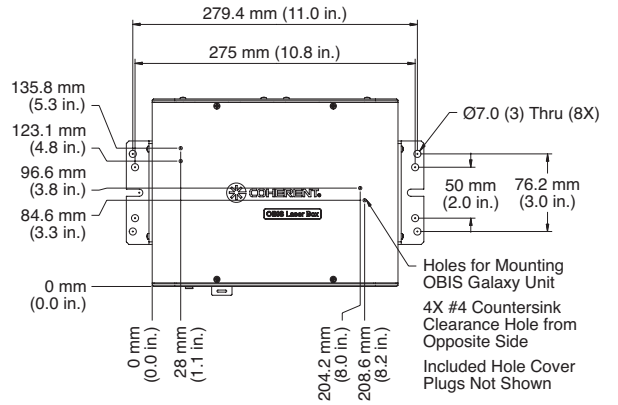
OBIS Laser Box



With Top Cover Removed

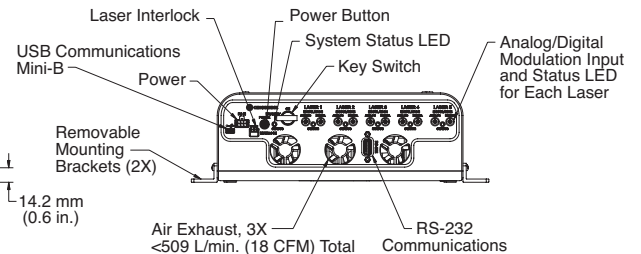
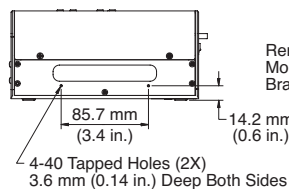


Top View



Rear View

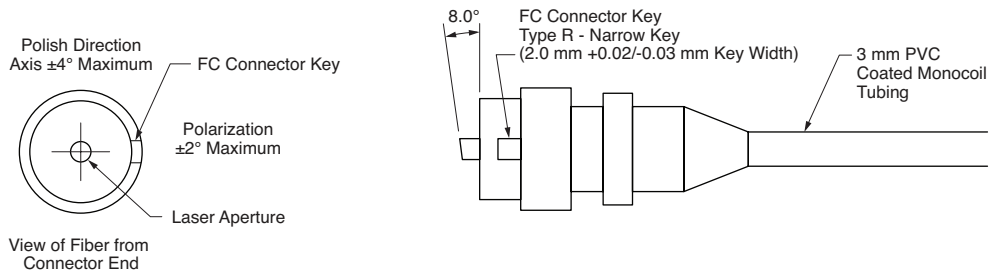
Side View (Mounting Bracket Shown Removed)



Front View

MECHANICAL SPECIFICATIONS

FC/APC Distal End - Output



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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 OBIS Galaxy Integrated Systems. 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-012-18-0M0618Rev.A Copyright ©2018 Coherent, Inc.

