Low Noise CW Monolithic DPSS benefits
- Up to 500 mW
- Low profile laser head (32 mm)
- Lowest power consumption
  - ≤ 12 W for LCX’s, any wavelength, less than 200 mW
  - ≤ 15 W for LCX-532 & LPX-640, 500 mW
  - ≤ 15 W for LCX-561, 300 mW
- Tailored beam diameter capability (0.6 up to 1.4 mm)

Laser Diode modules benefits
- Fast TTL and analog modulation
- Optional clean up filter

Common key features
- Ultra Low Noise ≤ 0.2% rms
- TEM_{00} Beam
- Beam pointing ≤ 5 µm/°C
- SM/PM/MM fiber coupling options
- USB and RS232 computer interfaces
- Graphic User Interface with remote diagnostics
- Remote ControlBoxx with power display (Plug&Play versions - CDRH)
- Controllers integrated into laser head
- LBX and LCX - Industry standard footprint (100x40 mm²)

Super Resolution Imaging
Confocal Microscopy
Flow Cytometry
DNA Sequencing
Optogenetics
Fluorescence Excitation
Wavelength Combiner
Polymer Curing
Material Analysis
Laser Marking
Polarization extinction ratio (typ.) 100:1 1000:1
Benefits

The LBX lasers provide superior beam quality, excellent stability and fast modulation capabilities.

The OXXIUS AMR technology offers the highest spectral quality of the market with no moving parts.

Complete the monolithic assembly at the end-faces of the crystals.

Dielectric mirrors coated a bond that is extremely robust.

The unique feature of the LaserBoxx DPSS is a proprietary, Alignment-free bonding technique.

The LBX lasers provide superior beam quality, excellent stability and fast modulation capabilities.

Other available wavelengths: 395 nm, 415 nm, 705 nm, 808 nm, 830 nm, 980 nm, 1064 nm

Specifications at nominal power

Analog modulation

3dB cut-off frequency, ACC mode ≥ 3 MHz DC-20 kHz

Rise / fall time, 10%-90% ≤ 2 ns ≤ 20 ns ≤ 2 ns 20 µs ≤ 15 ns ≤ 2 ns

Beam divergence

Power Stability

Power (mW)

Rise / fall times ≤ 2 ns

Analog Modulation

Optics

Beam pointing stability ≤ 5 µrad/°K ≤ 5 µrad/°K

Beam waist diameter (typ.) 0.7 mm 0.7 mm 0.7 mm 0.55 mm 0.8 mm 0.6 mm 0.7 mm 0.7 mm 0.8 mm 0.7 ± 0.1 mm 0.8 mm 0.9 mm 1 mm 1 mm 1 mm 0.8 mm 0.5 mm

Emission wavelength (typ.) 375 nm 405 nm 445 nm 450 nm 473 nm 488 nm 505 nm 515 nm 520 nm 532.3 nm 553.0 nm 561.4 nm 639.0 nm 633 nm 638 nm 642 nm 647 nm 660 nm 730 nm 785 nm

-170 -160 -150 -140 -130 -120 -110 -100 -90 -80 -70 -60 -50 -40 -30 -20 -10 0 10

Biophotonics & Industrial

Specifications

<table>
<thead>
<tr>
<th>system specifications</th>
<th>version</th>
<th>LCX, LPX, LBX</th>
<th>LCX &amp; LPX</th>
<th>LCX</th>
<th>LBX</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power adjustment range</td>
<td>0 - 100%</td>
<td>0 - 100%</td>
<td>0 - 100%</td>
<td>0 - 100%</td>
<td>0 - 100%</td>
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<tr>
<td>Rise / fall time, 10%-90%</td>
<td>≤ 2 ns</td>
<td>≤ 20 ns</td>
<td>≤ 2 ns</td>
<td>≤ 20 ns</td>
<td>≤ 20 ns</td>
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<td>Power Stability</td>
<td>LCX-532L Power vs temperature</td>
<td>Relative Intensity Noise</td>
<td>LCX-561L-200</td>
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<tr>
<td>Relative Intensity Noise</td>
<td>up to 3 MHz</td>
<td>Rise / Fall times ≤ 2 ns</td>
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</tbody>
</table>

LCX & LPX - DPSS Monolithic Resonator

Technology

The unique feature of the LaserBoxx DPSS is a proprietary, Alignment-free Monolithic Resonator (AMR). The elements of resonator are assembled into a single ultra-low-loss optical subassembly, using a proprietary crystal bonding technique.

A highly transparent compound, deposited on chemically activated end-faces of two crystals, creates a bond that is extremely robust over time, temperature variations, and insensitive to mechanical vibrations. Dielectric mirrors coated at the end-faces of the crystals complete the monolithic assembly with no moving parts.

Benefits of the AMR

The OXXIUS AMR technology offers the highest spectral quality of the market and a high robustness over the time. The LCX & LPX lasers are insensitive to temperature variations and mechanical vibrations. High stability and reliability.

LBX Platform

Technology

The LBX line is a performing driver integrated platform for laser diode. It provides fast TTL and analog modulation.

Benefits

The LBX lasers provide superior beam quality, excellent stability and fast modulation capabilities.

Electro-Mechanical shutter option

The ACX-SHTE is a compact and affordable electro-mechanical shutter. It is mounted directly on the LCX or LPX in place of the standard manual shutter.

The fiber coupling and other options are fully compatible with the electro-mechanical shutter. The ACX-SHTE is actuated via the LCX/LPX embedded software or via a standard TTL signal.

Fiber coupling options

Fiber coupling options offer rugged and compact solutions to couple LaserBoxx into polarization maintaining fiber, standard single mode fiber or multimode fiber.
Mechanical Drawings

LCX series, Plug & Play
DPSS Laser

LPX series, Plug & Play
DPSS Laser

LBX series, Plug & Play
Laser diode

PPA - ControlBoxx
With power adjustable

PPF - RemoteBoxx
Standard fixed output power

Optional heatsink for LCX and LBX series
Including power supply.

Optional air-forced heat sink for maximum ambient temperature of 38°C.

LCX series, OEM
DPSS Laser

LPX series, OEM
DPSS Laser

LBX series, OEM
Laser diode

All-In-One laser head with built-in controllers. Input voltage range: 5-12 V DC

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VISIBILE AND INVISIBLE LASER RADIATION
AVOID EXPOSURE TO BEAM
CLASS 3B LASER PRODUCT
Power up to 500 mW

VISIBILE AND INVISIBLE LASER RADIATION
AVOID EYE OR SKIN EXPOSURE TO DIRECT OR SCATTERED RADIATION
CLASS 4 LASER PRODUCT