Measurement & Spectroscopy

LaserBoxx
One platform for all colors

SLM CW Monolithic DPSS benefits
- Up to 500 mW
- Exceptional wavelength stability - 1 pm
- Lowest power consumption
  - ≤ 12 W for LCX's & LPX's, any wavelength, less than 200 mW
  - ≤ 15 W for LCX-532 & LCX-1064, 500 mW
  - ≤ 15 W for LCX-561 300 mW
  - ≤ 15 W LPX-640, 250 mW
- Low profile laser head (32 mm)
- Tailored beam diameter capability (0.6 up to 1.4 mm)

VBG stabilized Laser Diode modules benefits
- Proprietary SLM locking routine
- Enhanced beam quality versions

Common key features
- Single Longitudinal mode
- TEM_{00} Beam
- Beam pointing ≤ 5 µm/^°C
- SM/PM/MM fiber coupling options
- USB and RS232 computer interface
- 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 (100 x 40 mm²)

Raman Spectroscopy
Brillouin Scattering
Interferometry
Photoluminescence
Holography
Laser Doppler Velocimetry
Laser Ultrasonic
Dynamic Light Scattering

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**Single Frequency Lasers**

**Technology**

- **LBX-S and LSX-S**
  - Deliver ultra narrow linewidth thanks to its excellent temperature stability and low noise current.
  - The Oxxius proprietary LBX & LSX lines are performing driver integrated platforms for stabilized laser diode.

**Benefits**

- High stability and reliability.
- Benefits of the AMR technology offer the highest spectral quality of the market and a high robustness over the time.

**LCX & LPX Monolithic Resonator**

- Single Frequency Lasers
  - Emission wavelengths: 532.3 nm ± 0.3 nm, 553.0 nm ± 0.3 nm, 561.4 nm ± 0.3 nm, 639.8 nm ± 0.3 nm, 1064.6 nm ± 0.3 nm, 692.5 nm ± 0.3 nm, 785 nm ± 0.3 nm, 830 nm ± 0.3 nm
  - Nominal output power: 50 mW to 500 mW, 50 mW to 300 mW, 50, 100, 250 mW, 100 mW to 500 mW
  - Control mode: Automatic power control (APC), Automatic current control (ACC)
  - Power stability: ± 0.5 %, ± 1 %
  - Power adjustment: 30-100 %, 50-100 %
  - Beam quality factor (M²): ≤ 1.1
  - Beam pointing stability: ≤ 5 µrad/°K
  - Nominal output power: 20 mW, 40 mW, 150 mW
  - Emission wavelengths: 561.4 nm ± 0.4 nm, 1064.6 nm ± 0.5 nm

**Specifications**

- **Optical characteristics**
  - Emission wavelength: 532.3 nm ± 0.3 nm, 553.0 nm ± 0.3 nm, 561.4 nm ± 0.3 nm, 639.8 nm ± 0.3 nm, 1064.6 nm ± 0.3 nm, 692.5 nm ± 0.3 nm, 785 nm ± 0.3 nm, 830 nm ± 0.3 nm
  - Wavelength stability: ± 1 pm
  - Linearization: ± 10 pm ± 0.5 nm
  - Coherence length: ≤ 1 mm
  - Nominal output power, continuous wave: 50 mW to 500 mW, 50 mW to 300 mW, 50, 100, 250 mW, 100 mW to 500 mW
  - Control mode: Automatic power control (APC), Automatic current control (ACC)
  - Power stability: ± 1%
  - Power adjustment: 30-100%, 50-100%, 30-100%, 30-100%
  - Transverse singlemode free-space beam:
    - Beam divergence: 0.7 ± 0.1 mm, 0.5 ± 0.1 mm, 0.5 ± 0.1 mm, 0.5 ± 1.0 mm
    - Beam quality factor (M²): ≤ 1.1
    - Beam pointing stability: ≤ 0.2°K/K
  - Polarization state: linear, vertical
  - Power stability: ± 0.2 %

**Wavelength Stability**

- Single Longitudinal Mode
- LCX-561S wavelength vs time
- Power Stability
- LCX-561S power vs temperature

**Advanced features with L1C platform**

- The L1C platform offers an efficient, compact and cost effective solution to add advanced features to the LCX, LPX, LSX or LBX-S lasers.

- **L1C-MPA** – Motorized Power Attenuator
- **L1C-AOM** – Acousto-Optic Modulator – DC 3MHz
- **L1C-ISO** – 25dB Isolation and transmission ≥ 85%.

- It comes in standard with the electro-mechanical shutter.

**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 the 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 or 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.

- **SM, PM & MM Fiber coupling**

**www.oxxius.com**
Mechanical Drawings

LCX series, Plug & Play
DPSS Laser

LPX series, Plug & Play
DPSS Laser

LBX series, Plug & Play
Stabilised laser diode

LSX series, Plug & Play
Stabilized laser diode
Integrated isolator

PPA - ControlBoxx

PPF - RemoteBoxx

Optional heatsink for LCX and LBX series

With power adjustable

Standard fixed output power

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
Stabilized laser diode

LSX series, OEM
Stabilized laser diode
Integrated isolator

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

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Oxxius has a policy of continuous product improvement. Specifications may change without notice.