OXXIUS
Laser Matters

# FlexxRay
By Oxxius

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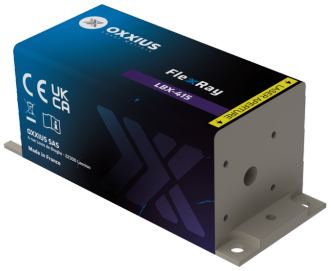
|---|---|
| **Product range** | CW & Modulated Lasers |
| **Product name** | FlexxRay 415 nm |
| **Reference** | LBX-415 |
| **Description**  | The FlexxRay LBX-415 is a compact 415 nm laser source delivering one of the highest power available on the market over a beam of superior quality, and featuring a high-speed modulation. Its integrated control electronics and robust design suit both laboratory and industrial use.<br>Performance, stability, and versatility make it a trusted solution for atom cooling, lithography or polymer curing.<br>**Key features**<br>• $TEM_{00}$ spatial mode<br>• ±0.5 % long-term power stability; low optical noise<br>• Modulation up to 150 MHz<br>• Integrated control electronics<br>• 100×40 mm industry-standard footprint<br>Fully compatible with Oxxius MixxWave combiners for single-mode fiber delivery alongside other laser lines. |

## Product Variations

| Part Number | Power |
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| LBX-415-120-CSB-PPA | 120 mW |

# Optical Characteristics

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| **Emission wavelength** | 415 nm |
| **Tolerance** | (±5 nm tolerance) |
| **Power stability over 8 hours, temperature within ±3°C** | ±0.5 % |
| **Control modes** | Automated power control, Automated current control |
| **Optical noise** | ≤0.2% rms, 10 Hz-20 MHz bandwidth |
| **Spectral linewidth** | ≤1.5 nm |
| **Digital modulation function - Rise / fall time** | ≤2 ns |
| **Digital modulation function - Bandwidth** | ≥150 MHz |
| **Analog modulation function - Rise / fall time** | ≤150 ns |
| **Analog modulation function - Bandwidth** | ≥3 MHz |
| **Beam diameter, 1/e² level, 50mm from the beam aperture** | 0.7 ±0.2 mm |
| **Beam divergence, 1/e² level full beam, far field** | ≤1.4 mrad |
| **Beam quality factor M²** | ≤1.25 |
| **Beam circularity, far field** | ≥90 % |
| **Polarization state** | Linear, vertical, extinction ratio ≥20 dB |

# General Specifications

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| **Power consumption** | 10 W max. |
| **Supply voltage** | 5 V to 12 V |
| **Operating temperature** | 10 °C to 50 °C |
| **Storage temperature and humidity** | 0 °C to 60 °C |
| **Warm up time** | ≤2 minutes |
| **Interfaces** | USB, RS-232, direct modulation inputs |
| **Dimensions (laser head)** | 100x40x40 mm |
| **Weight (laser head)** | ≤330 g |
| **Controler dimensions** | 106x126x56 mm |
| **Compliance** | CE (incl. IEC 60825-1) and FDA 21 CFR 1040.10 / 1040.11 |
| **Laser class** | |
| **Warranty** | 24 months or 10000 hours, whichever occurs first |

# Options

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| Single-mode fiber coupling |
| Multimode fiber coupling |
| Heat management |
| Electromechanical shutter |
| Flange |
| OEM version |

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