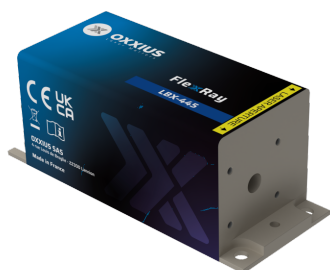


# FlexxRay

By Oxxius

|                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Product range</b> | CW & Modulated Lasers                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Product name</b>  | FlexxRay 445 nm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>Reference</b>     | LBX-445                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Description</b>   | <p>The FlexxRay LBX-445 is a compact 445 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.</p> <p>Performance, stability, and versatility make it a trusted solution for fluorescence-based microscopy, flow cytometry and optical pumping. <b>Key features</b></p> <ul style="list-style-type: none"> <li>• TEM<sub>00</sub> spatial mode</li> <li>• <math>\pm 0.5</math> % long-term power stability; low optical noise</li> <li>• Modulation up to 150 MHz</li> <li>• Integrated control electronics</li> <li>• 100×40 mm industry-standard footprint Fully compatible with Oxxius MixxWave combiners for single-mode fiber delivery alongside other laser lines.</li> </ul> |



## Product Variations

| Part Number         | Power  |
|---------------------|--------|
| LBX-445-100-CSB-PPA | 100 mW |
| LBX-445-500-CSB-PPA | 500 mW |

## Optical Characteristics

|                                                                          |                                                    |
|--------------------------------------------------------------------------|----------------------------------------------------|
| <b>Emission wavelength</b>                                               | 445 nm                                             |
| <b>Tolerance</b>                                                         | (±5 nm tolerance)                                  |
| <b>Power stability over 8 hours, temperature within ±3°C</b>             | ±0.5 %                                             |
| <b>Control modes</b>                                                     | Automated power control, Automated current control |
| <b>Optical noise</b>                                                     | ≤0.2% rms, 10 Hz-20 MHz bandwidth                  |
| <b>Spectral linewidth</b>                                                | ≤1.5 nm                                            |
| <b>Digital modulation function - Rise / fall time</b>                    | ≤2 ns                                              |
| <b>Digital modulation function - Bandwidth</b>                           | ≥150 MHz                                           |
| <b>Analog modulation function - Rise / fall time</b>                     | ≤150 ns                                            |
| <b>Analog modulation function - Bandwidth</b>                            | ≥3 MHz                                             |
| <b>Beam diameter, 1/e<sup>2</sup> level, 50mm from the beam aperture</b> | 0.7 ±0.2 mm                                        |
| <b>Beam divergence, 1/e<sup>2</sup> level full beam, far field</b>       | ≤1.4 mrad                                          |
| <b>Beam quality factor M<sup>2</sup></b>                                 | ≤1.25                                              |
| <b>Beam circularity, far field</b>                                       | ≥90 %                                              |
| <b>Polarization state</b>                                                | Linear, vertical, extinction ratio ≥20 dB          |

## General Specifications

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

## Options

|                            |
|----------------------------|
| Single-mode fiber coupling |
| Multimode fiber coupling   |
| Heat management            |
| Electromechanical shutter  |
| Band-pass filter           |
| OEM version                |

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