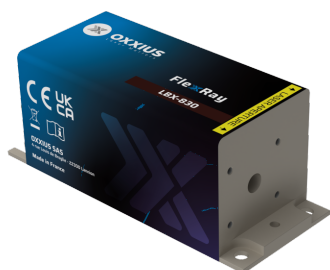


# FlexxRay

By Oxxius

|                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Product range</b> | CW & Modulated Lasers                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>Product name</b>  | FlexxRay 830 nm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>Reference</b>     | LBX-830                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Description</b>   | <p>The FlexxRay LBX-830 is a compact 830 nm laser source built for demanding imaging and analytical applications, combining a diffraction-limited TEM<sub>00</sub> beam, ultra-low optical noise, and modulation speeds up to 150 MHz. Its integrated control electronics and robust design suit both laboratory and industrial use.</p> <p>Precision, stability, and versatility make it a trusted solution for fluorescence-based microscopy, flow cytometry and illumination where beam quality and fast switching matter more than raw output power.</p> <p><b>Key features</b></p> <ul style="list-style-type: none"> <li>• TEM<sub>00</sub> spatial mode</li> <li>• ±1 % 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</li> </ul> <p>Fully compatible with Oxxius MixxWave combiners for single-mode fiber delivery alongside other laser lines.</p> |



## Product Variations

| Part Number         | Power  |
|---------------------|--------|
| LBX-830-100-CSB-PPA | 100 mW |

## Optical Characteristics

|                                                                                            |                                                    |
|--------------------------------------------------------------------------------------------|----------------------------------------------------|
| <b>Emission wavelength</b>                                                                 | 830 nm                                             |
| <b>Tolerance</b>                                                                           | ( $\pm 10$ nm tolerance)                           |
| <b>Power stability over 8 hours, temperature within <math>\pm 3^{\circ}\text{C}</math></b> | $\pm 1$ %                                          |
| <b>Control modes</b>                                                                       | Automated power control, Automated current control |
| <b>Optical noise</b>                                                                       | $\leq 0.2$ % rms, 10 Hz-20 MHz bandwidth           |
| <b>Spectral linewidth</b>                                                                  | $\leq 1.2$ nm                                      |
| <b>Digital modulation function - Rise / fall time</b>                                      | $\leq 5$ ns                                        |
| <b>Digital modulation function - Bandwidth</b>                                             | 150 MHz                                            |
| <b>Analog modulation function - Rise / fall time</b>                                       | $\leq 200$ ns                                      |
| <b>Analog modulation function - Bandwidth</b>                                              | $\geq 2.5$ . MHz                                   |
| <b>Beam diameter, <math>1/e^2</math> level, 50mm from the beam aperture</b>                | $0.9 \pm 0.2$ mm                                   |
| <b>Beam divergence, <math>1/e^2</math> level full beam, far field</b>                      | $\leq 2.2$ mrad                                    |
| <b>Beam quality factor <math>M^2</math></b>                                                | $\leq 1.25$                                        |
| <b>Beam circularity, far field</b>                                                         | $\geq 90$ %                                        |
| <b>Polarization state</b>                                                                  | Linear, vertical, extinction ratio $\geq 17$ dB    |

## General Specifications

|                                         |                                                         |
|-----------------------------------------|---------------------------------------------------------|
| <b>Power consumption</b>                | 1 W typ. / 10 W max.                                    |
| <b>Supply voltage</b>                   | 5 V to 12 V                                             |
| <b>Operating temperature</b>            | $10^{\circ}\text{C}$ to $50^{\circ}\text{C}$            |
| <b>Storage temperature and humidity</b> | $0^{\circ}\text{C}$ to $60^{\circ}\text{C}$             |
| <b>Warm up time</b>                     | $\leq 2$ minutes                                        |
| <b>Interfaces</b>                       | USB, RS-232, direct modulation inputs                   |
| <b>Dimensions (laser head)</b>          | 100x40x40 mm                                            |
| <b>Weight (laser head)</b>              | $\leq 330$ 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>                      | 3B                                                      |
| <b>Warranty</b>                         | 24 months or 5000 hours, whichever occurs first         |

# Options

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

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