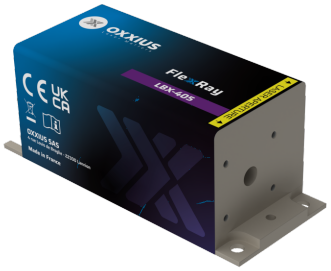
OXXIUS
Laser Matters

FlexxRay
By Oxxius

Product range	CW & Modulated Lasers
Product name	FlexxRay 405 nm
Reference	LBX-405
Description 	The FlexxRay LBX-405 is a compact 405 nm laser source built for demanding imaging and analytical applications, combining a diffraction-limited TEM_{00} 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. Precision, stability, and versatility make it a trusted solution for fluorescence-based microscopy, flow cytometry, DNA sequencing, and photoluminescence analysis where beam quality and fast switching matter more than raw output power. **Key features** • TEM_{00} spatial mode • ±0.5 % long-term power stability; low optical noise • Modulation up to 150 MHz • Integrated control electronics • 100×40 mm industry-standard footprint Fully compatible with Oxxius MixxWave combiners for single-mode fiber delivery alongside other laser lines.

Product Variations

Part Number	Power
LBX-405-50-CSB-PPA	50 mW
LBX-405-100-CSB-PPA	100 mW
LBX-405-180-CSB-PPA	180 mW
LBX-405-300-CSB-PPA	300 mW

Optical Characteristics

Emission wavelength	405 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	≤1.3 mrad
Beam quality factor M²	≤1.25
Beam circularity, far field	≥90 %
Polarization state	Linear, vertical, extinction ratio ≥20 dB

General Specifications

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

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.