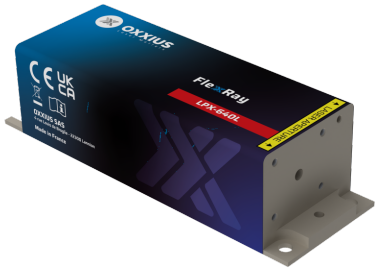
OXXIUS
Laser Matters

FlexxRay
By Oxxius

Product range	CW & Modulated Lasers
Product name	FlexxRay 640 nm
Reference	LPX-640L
Description 	The FlexxRay LPX-640L is a compact 640nm laser source delivering one of the highest power available on the market over a beam of superior quality, and featuring an analogue modulation function. Its integrated control electronics and robust design suit both laboratory and industrial use. Performance, stability, and versatility make it a trusted solution for super-resolution microscopy, DNA sequencing and illumination. Key features • TEM_{00} spatial mode • ±0.5 % long-term power stability • Modulation up to 1.5 kHz • Integrated control electronics Fully compatible with Oxxius MixxWave combiners for single-mode fiber delivery alongside other laser lines.

Product Variations

Part Number	Power
LPX-640L-300-CSB-PPA	300 mW
LPX-640L-500-CSB-PPA	500 mW
LPX-640L-1000-CSB-PPA	1000 mW

Optical Characteristics

Emission wavelength	639.7 nm
Tolerance	(±0.5 nm tolerance)
Power stability over 8 hours, temperature within ±3°C	±0.5 %
Control modes	Automated power control
Optical noise	≤2.0 % rms, 10 Hz-100 kHz bandwidth
Spectral linewidth	≤0.5 nm
Digital modulation function - Rise / fall time	≤20 µs
Digital modulation function - Bandwidth	≥1.5 kHz
Analog modulation function - Rise / fall time	≤20 µs
Analog modulation function - Bandwidth	≥1.5 kHz
Beam diameter, 1/e² level, 50mm from the beam aperture	0.7 ±0.1 mm
Beam divergence, 1/e² level full beam, far field	≤1.5 mrad
Beam quality factor M²	≤1.1
Beam circularity, far field	≥90 %
Polarization state	Linear, vertical, extinction ratio ≥30 dB

General Specifications

Power consumption	20 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	≤5 minutes
Interfaces	USB, RS-232, direct modulation inputs
Dimensions (laser head)	120x40x32 mm
Weight (laser head)	250 g
Controler dimensions	106x126x56 mm
Compliance	CE (incl. IEC 60825-1) and FDA 21 CFR 1040.10 / 1040.11
Laser class	3B, 4
Warranty	24 months or 10000 hours, whichever occurs first

Options

Multimode fiber coupling
Heat management
High rate modulation
OEM version

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