OXXIUS
Laser Matters

MixxWave
By Oxxius

Product range	Laser Diode Illuminators (LDI)
Product name	LDI-7 Laser Diode Illuminator
Reference	LDI-7
Description 	The LDI-7 laser diode illuminator is the most spectrally complete model in the MixxWave Gen1 range, covering 7 lines across the full visible spectrum — from 405 nm (DAPI) to 640 nm (Cy5) — including the 445, 520 and 528 nm lines unavailable on the LDI-4 and LDI-5. With up to 1000 mW per line and a 100:1 linear dynamic range, it provides the flexibility needed for complex multicolor fluorescence protocols in confocal, SIM, TIRF and PALM/STORM applications. Formerly part of the 89 North product line, the LDI-7 is now manufactured and supported by Oxxius. **Key features** • 7 laser lines across the full visible spectrum (405 nm to 640 nm) • Up to 1000 mW output power per line • No user alignment required • TTL & Analog control Discover the next-generation LDI-G2-7.

Product Variations

Part Number	Combined wavelengths
LDI-7	405 / 445 / 470 / 520 / 528 / 555 / 640
LDI-7-577	405 / 445 / 470 / 520 / 528 / 577 / 640
LDI-7-488	405 / 445 / 488 / 520 / 528 / 555 / 640
LDI-7-488-577	405 / 445 / 488 / 520 / 528 / 577 / 640

Performance by Wavelength

Wavelength	Optical Power Min [1]	CW Stability (typ.) [2]	Max Rise Time (typ.) [3]	Max On/Off Frequency [4]
405	300 mW	2 %	10 µs	>1000 Hz
445	1000 mW	2 %	10 µs	>1000 Hz
470 or 488	1000 mW	2 %	10 µs	>1000 Hz
520	500 mW	2 %	10 µs	>1000 Hz
528	500 mW	2 %	10 µs	>1000 Hz
555 or 577	1000 or 700 mW	2 %	2 ms	100 Hz
640	400 mW	2 %	10 µs	>1000 Hz

Legends

1. Optical Power Min: Measured at 100% intensity, 23 °C ±2 °C.

2. CW Stability (typ.): Standard Deviation relative to mean power, at 100% intensity, 23 °C ±2 °C.

3. Max Rise Time (typ.): Measured at 100% intensity, 23 °C ±2 °C.

4. Max On/Off Frequency: Measured at 100 % intensity, 50 % duty cycle

Optical Characteristics

Output Power	Up to 1000 mW per line
Optical Stability	Feedback-controlled 2 % CW stability
Intensity Control	1 % steps 100:1 linear dynamic range
Laser Lines	Up to 7 lines: 405 / 445 / 470 or 488 520 / 528 / 555 or 577 / 640 nm
NIR Channel (730 nm)	--
Beam Quality	Standard multimode output
Fiber Output	400 µm bifurcated
User Alignment	Not required

LDI-7 Laser Diode Illuminator General specifications

Output Options	Optical fiber (400 µm bifurcated, 0.39 NA)
Control Options	TTL (>2.3 V) | Analog (0–5 V) USB–DSP (virtual COM port)
Safety	Interlocked housing | Key interlock IEC 60825 compliant
QUAREP-LiMi WG1	--
Dimensions	318 × 234 × 146 mm (12.5" × 9.2" × 5.75")
Weight	~4 kg (~9 lbs)
Operating Temp.	15 to 30 °C
Storage Temp.	-18 to 50 °C
Humidity	80 % non-condensing
Voltage	90–220 V AC, 50–60 Hz
Warranty	2 years

Options

Fiber sets
LDI Breakout Box
Fiber Bend Box
External Despeckler

Applications / Techniques

Confocal Microscopy
Spinning Disk Microscopy
Widefield Microscopy
Light Sheet Microscopy
Structured Illumination Microscopy (SIM)
Super Resolution Imaging
TIRF
PALM / STORM / DNA-PAINT
FRAP
Photoactivation / Photoconversion
Photoablation
Optogenetics
Neuroscience / Physiology
Cellular Biology
Single Molecule FISH (smFISH)
Spatial Transcriptomics / Proteomics
Digital Pathology

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