OXXIUS
Laser Matters

MixWave
By Oxxius

Product range	Laser Diode Illuminators (LDI)
Product name	LDI-G2-5 Laser Diode Illuminator
Reference	LDI-G2-5
Description 	The LDI-G2-5 laser diode illuminator builds on the G2 platform with expanded power and spectral reach. Alongside the core visible lines, it extends into the near-infrared with a 730 nm channel, ideal for deep-tissue imaging and multiplexing imaging techniques. Combining brighter illumination with enhanced stability, the LDI-G2-5 delivers confidence in results across both traditional and cutting-edge applications. As with the 4-line model, optional 488 nm and 577 nm lasers can be included for GFP and mCherry imaging. Note that we can also work with you to provide solutions for your unique needs. **Key features** • 5 laser lines from visible to near-infrared (up to 730 nm) • Up to 1000 mW output power per line • Feedback-controlled optical stability • Optional 488 nm & 577 nm lasers • No user alignment required • TTL & Analog control Compare with the LDI-5.

Product Variations

Part Number	Combined wavelengths
LDI-G2-5	405 / 470 / 555 / 640 / 730
LDI-G2-5-577	405 / 470 / 577 / 640 / 730
LDI-G2-5-488	405 / 488 / 555 / 640 / 730
LDI-G2-5-488-577	405 / 488 / 577 / 640 / 730

Performance by Wavelength

Wavelength	Optical Power Min [1]	CW Stability (typ.) [2]	Max Rise Time (typ.) [3]	Max On/Off Frequency [4]
405	450 mW	0.2 %	5 µs	>1000 Hz
470 or 488	1000 mW[5]	0.2 %	5 µs	>1000 Hz
555 or 577	700 or 500 mW[6]	0.2 %	2 ms	100 Hz
640	1000 mW	0.2 %	5 µs	>1000 Hz
730	750 mW	0.2 %	5 µs	>1000 Hz

Legends

1. Optical Power Min: Defined in accordance with the QUAREP-LiMi WG 1 standard, “Illumination Power, Stability, and Linearity Measurements for Confocal and Widefield Microscopes V.2”, Section 8, with power output measured at the fiber output.

2. CW Stability (typ.): Measured at 100% intensity, 23 °C ±2 °C.

3. Max Rise Time (typ.): Defined in accordance with the QUAREP-LiMi WG 1 standard, “Illumination Power, Stability, and Linearity Measurements for Confocal and Widefield Microscopes V.2”, Section 8, with power output measured at the fiber output.

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

5. 470 or 488 - Optical Power Min: 488 nm optical power min preliminary estimate. Actual output power pending product release.

6. 555 or 577 - Optical Power Min: 577 nm optical power min preliminary estimate. Actual output power pending product release.

Optical Characteristics

Output Power	Up to 1000 mW per line + higher power density via 400 µm single fiber
Optical Stability	Active feedback control 0.2 % CW stability (10× improvement)
Laser Lines	5 lines: DAPI | FITC/GFP | TRITC/mCherry | Cy5 | 730 nm NIR + optional 488 nm & 577 nm
NIR Channel (730 nm)	✔ Deep-tissue imaging Multiplexing applications
Beam Quality	Improved beam quality Cleaner, more stable output profile
Fiber Output	400 µm single → higher power density
User Alignment	Not required

LDI-G2-5 Laser Diode Illuminator General specifications

Output Options	Optical fiber (400 µm single, 0.39 NA)
Control Options	TTL (> 2.3 V) | Analog (0–5 V) USB–DSP (virtual COM port)
Intensity Control	0.1% steps (10× finer) Full linear range
Safety	Interlocked housing | Key interlock IEC 60825 compliant
QUAREP-LiMi WG1	✔ Compliant
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
Near Infrared (NIR) Imaging — 730 nm
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.