OXXIUS
Laser Matters

MixWave

By Oxxius

Product range	Laser Diode Illuminators (LDI)
Product name	LDI-5 Laser Diode Illuminator
Reference	LDI-5
Description 	The LDI-5 laser diode illuminator is the big sister of the LDI-4. Once again designed around user feedback, this illuminator is a pared down version of the LDI-NIR. The LDI-5 offers increased power over its little sister and expands into the near infra-red with the addition of a 730 nm line. This unit is also available with a 488 nm laser for FITC/GFP and with a 577 nm laser for TRITC/mCherry… or both! Note that we can also work with you to provide solutions for your unique needs. Formerly part of the 89 North product line, the LDI-5 is now manufactured and supported by Oxxius. You may also want to discover the next-generation LDI-G2-5. **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

Product Variations

Part Number	Combined wavelengths
LDI-5	405 / 470 / 555 / 640 / 730
LDI-5-577	405 / 470 / 577 / 640 / 730
LDI-5-488	405 / 488 / 555 / 640 / 730
LDI-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	2 %	10 µs	>1000 Hz
470 or 488	1000 mW	2 %	10 µs	>1000 Hz
555 or 577	1000 or 700 mW	2 %	2 ms	>1000 Hz
640	900 mW	2 %	10 µs	100 Hz
730	850 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
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	Standard multimode output
Fiber Output	400 µm bifurcated
User Alignment	Not required

LDI-5 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)
Intensity Control	1 % steps 100:1 linear dynamic range
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.