

LDI^{G2}

HIGH-PERFORMANCE LASER DIODE ILLUMINATOR

THE NEXT GENERATION OF ILLUMINATION

The LDI-G2 is the next evolution of our trusted Laser Diode Illuminator family—engineered for today's most demanding imaging applications. With higher power density, rock-solid stability, and more efficient light delivery, the LDI-G2 line ensures researchers get the illumination performance they need, without compromise.



HIGHER POWER DENSITY

A new single 400 μm fiber output concentrates optical power into a smaller area, delivering higher power density and uniform illumination for brighter, faster, and more efficient imaging—without added optics.

ROCK-SOLID STABILITY

An upgraded active feedback system delivers 99.8% illumination stability, ensuring data reflects real biology—not light-source drift. LDI-G2 provides unmatched reliability for quantitative imaging and long time-lapse studies, aligned with QUAREP-LiMi standards.

FINER INTENSITY CONTROL

LDI-G2 offers laser power control in ultra-fine 0.1% increments—ten times finer than typical systems. Researchers can precisely tune excitation light for sensitive samples, minimizing photobleaching and achieving perfect illumination for reproducible imaging.

LDI-G2 FAMILY PRODUCT LINE OVERVIEW

We offer a full range of LDI products, including laser lines at 488nm, 577nm, and into the NIR. Other laser lines are available upon request.

	405nm	445nm	CHOOSE BETWEEN		520nm	528nm	CHOOSE BETWEEN		640nm	730nm
LDI-G2-4 Series	300		1000	900-1000			700	450-500	500	
LDI-G2-5 Series	450		1000	900-1000			700	450-500	1000	750
LDI-G2-7 Series	300	1000	1000	900-1000	500	450	700	450-500	500	
LDI-G2-NIR Series	450	1000	1000	900-1000	500		700	450-500	1000	750

Units shown in the interior of the table above are milliwatts (mW) and are measured at the fiber.

LDI-G2: POWERFUL. STABLE. EFFICIENT.

Designed for researchers pushing the limits of fluorescence and live-cell imaging.

WHO BENEFITS?

- Cell biologists studying dynamic or delicate processes where signal consistency is critical.
- Neuroscientists performing optogenetics or calcium imaging requiring precise, stable illumination.
- Microscopists whose research demands both high power density & stability (STORM, PALM, SIM).
- Core facilities supporting diverse multi-user imaging workflows.

SPECIFICATIONS

Source Type	Laser Diodes									
Laser Line (nm)	405	445	470	488	520	528	555	577	640	730
Width; Average FWHM (nm)	1.1	1.0	1.1	1.8	3.1	2.6	0.4	0.4	1.5	1.2
Centroid Wavelength Range (nm) ¹	397-408	438-450	463-470	482-494	514-524	526-535	552-557	574-580	632-644	722-738
Continuous Wave Stability ²	< 0.2%	< 0.2%	< 0.2%	< 0.2%	< 0.2%	< 0.2%	< 0.2%	< 0.2%	< 0.2%	< 0.2%
Max Rise Time ¹	< 5 μ s	< 5 μ s	< 5 μ s	< 5 μ s	< 5 μ s	< 5 μ s	< 2 ms	< 2 ms	< 5 μ s	< 5 μ s
Max On/Off Frequency (Hz) ³	> 1000	> 1000	> 1000	> 1000	> 1000	> 1000	100	100	> 1000	> 1000
Output Options	optical fiber ⁴									
Control Options	TTL (>2.3 V) Analog (0-5 V) USB-DSP (virtual COM port) – SDK available upon request									
Safety	Interlocked housing Safety interlock Key interlock IEC 60825 compliant									
Dimensions	12.5" x 9.2" x 5.75", 318mm x 234mm x 146mm									
Weight	~9 lbs									
Operating Temperature	15-30° C									
Storage Temperature	-18-50° C									
Humidity	< 80% non-condensing									
Voltage	90-220 V AC, 50-60 Hz									
Fuse	None									
Warranty	2 Years									

1. Typical values measured at 100% intensity, 23°C $\pm$ 2°C

2. Typical CW stability value, calculation based on QUAREP LiMi WG 1 Illumination stability measurement at 100% intensity, 23°C $\pm$ 2°C

3. Measured at 100% intensity, 50% duty cycle

4. Recommended output fiber is 400 μ m, 0.39 NA fiber.

DANGER - LASER RADIATION. AVOID EYE OR SKIN EXPOSURE TO DIRECT OR SCATTERED RADIATION CLASS 4 LASER PRODUCT

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