



# High-performance Laser Diode Illuminators



**2023 V1**

For customized projects please Contact us:  
[sales@simtrum.cn](mailto:sales@simtrum.cn)

## High-performance Laser Diode Illuminators

The LDI is a multiline, solid-state laser illuminator offering up to 1000mW of output power via a multimode fiber at the price of a low power LED light engine. With feedback-controlled output stability and up to a 100:1 linear dynamic range, the LDI is the ideal light source for a wide range of applications including spinning disk confocal microscopy, structured illumination microscopy, FRAP, photoactivation / photoconversion, and PALM/STORM.



Image of LDI-WF

### Application

- Spinning disk confocal microscopy with Crest X-Light
- Super resolution SIM imaging with Crest VCS or Live SR
- PALM/STORM
- Optogenetics with DLPs or multiport illuminator
- Photoactivation / photoconversion / FRAP with RAPP GEO
- FRAP with SLM or multiport Illuminator



Image of other models

### Feature

#### High Output Power

- Shorter exposures
- Faster imaging
- Faster bleaching times in FRAP experiments
- Faster activation times in optogenetics and photoactivation experiments

#### Feedback Controlled Optical Stability

- Quantitative imaging, ideally suited for ratiometric imaging
- More repeatable optogenetics experiments

#### Up to 100:1 Linear Dynamic Range

- Ability to turn power down when needed and maintain stability and quantitative imaging

#### No User Alignment

- Easy to use and maintain

#### TTL and Analog Control

- No need for software specific drivers

## Laser Diode Illuminators Type

### LDI-WF

- A powerful and inexpensive light engine
- Offering 7 laser lines
- Designed specifically for widefield microscopy
- Delivers the light to the microscope via a 3mm liquid light guide
- Have built-in homogenization
- THE 555nm laser diode covers the 'green gap' common in other solid-state light engine

### LDI-5

- A multiline, solid-state laser illuminator
- The big sister of the LDI-4 laser diode illuminator
- Offering 5 laser lines from the VIS-NIR with powers up to 1W
- Available with a 488nm laser for FITC/GFP and with a 577nm laser for TRITC/m Cherry or both

### LDI-7

- A multiline, solid-state laser illuminator
- Offering 7 laser lines
- Offering up to 1000mW of output power per laser line via a multimode fiber at the price of lower power LED light engines

### LDI-PRIME

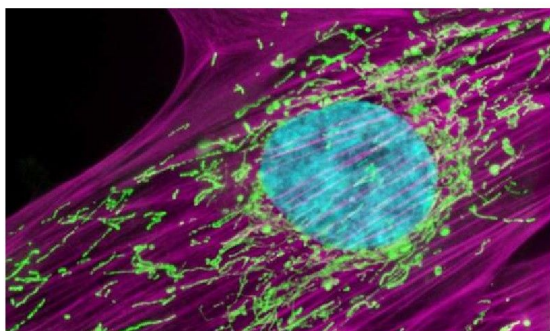
- A multiline, solid-state laser illuminator
- Offering 4 laser lines across the visible with lots of power and a single fiber output
- Designed specifically for researchers demanding the 488nm laser
- All the lasers are combined into a single 400um fiber optic output.

### LDI-4

- A multiline, solid-state laser illuminator
- Offering 4 laser lines across the visible with powers up to 1W
- A user inspired version of the original LDI-7
- Available with a 488nm laser for FITC/GFP and with a 577nm laser for TRITC/m Cherry or both

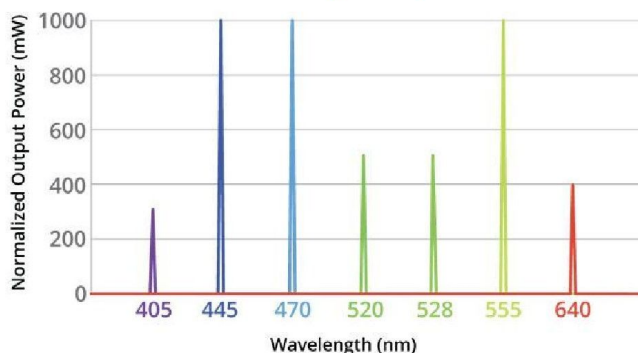
### LDI-NIR

- A multiline, solid-state laser illuminator
- Offering 7 laser lines across the VIS-NIR with up to 1000mW of output power



Our LDI series offers the most cost efficient price-to-performance ratio of any laser source available on the market today

### LDI-7 Output Spectra



## Common Specifications

Source Type	Laser Diodes	Weight	~9 lbs
Safety	Interlocked Housing	Operating Temperature	15-30 °C
	Safety Interlock	Storage Temperature	-18-50 °C
	Key Interlock	Humidity	< 80% Non-condensing
	IEC 60825 Compliant	Voltage	90-220 V AC, 50-60 Hz
Dimensions	12.5"x9.2"x5.75", 318x234x146mm	Fuse	None

## Laser Models for Choice

Model	405nm	445nm	470nm	488nm	520nm	530nm	555nm	577nm	640nm	730nm
LDI-4	300mW	/	1000mW	/	/	/	1000mW	/	450mW	/
LDI-4-488	300mW	/	/	1000mW	/	/	1000mW	/	450mW	/
LDI-4-577	300mW	/	1000mW	/	/	/	/	750mW	450mW	/
LDI-4-488-577	300mW	/	/	1000mW	/	/	/	750mW	450mW	/
LDI-5	450mW	/	1000mW	/	/	/	1000mW	/	900mW	850mW
LDI-5-488	450mW	/	/	1000mW	/	/	1000mW	/	900mW	850mW
LDI-5-577	450mW	/	1000mW	/	/	/	/	750mW	900mW	850mW
LDI-5-488-577	450mW	/	/	1000mW	/	/	/	750mW	900mW	850mW
LDI-7	300mW	1000mW	1000mW	/	500mW	500mW	1000mW	/	450mW	/
LDI-WF	300mW	1000mW	1000mW	/	500mW	500mW	1000mW	/	450mW	/
LDI-NIR	450mW	1000mW	1000mW	/	500mW	/	1000mW	/	900mW	850mW
LDI-PRIME	150mW	/	/	750mW	/	/	700mW	/	350mW	/
LDI-VBGR SF	175mW	/	200mW	/	/	/	175mW	/	250mW	/
LDI-VCGR SF	175mW	/	/	300mW	/	/	175mW	/	250mW	/

## Accessories

### LDI Accessories - Fibers and Output Optics(Optional)

Model Number	Description
02-2676	Bifurcated fiber optic patchcord, for LDI-7. 400 micron to 800 micron fiber bundle 400 um core, 0.39NA, SMA, 2m
02-2677	1.5 mm multimode fiber - SMA-SMA. 2m
02-4745	400 um multimode fiber - 0.39NA, SMA-SMA, 1m
02-2680	105 um multimode fiber - 0.22NA, FC-FC, 2m
03-0873	Trifurcated fiber optic patchcord , 400 um core, 0.397NA, SMA, 3m, metal junction
03-4112	Trifurcated fiber optic patchcord , 400 um core, 0.39NA, SMA, 2m, plastic junction
03-3180	Trifurcated fiber optic patchcord , 400 um core, 0.397NA, SMA, 0.25m
02-3618	Quadfurcated fiber optic patchcord , 400 um core, 0.39NA, SMA, 21m
02-2649	SMA-SMA mating sleeve
02-2738	Liquid light guide for LDI-WF (2m long w/3 mm core)VIS (340-800nm range)
03-3619	LLG adapter assembly: converts any LDI to LLG output, SMA905 - LLG (3mm)

### LDI Accessories – Others(Optional)

Model Number	Description
03-0786	Break out box for LDI. 7 TTL and analog BNCs connectors. Includes DB25 cable.
03-4266	Break out box for LDI-NIR. 7 TTL and analog BNCs connectors. Includes DB25 cable.
03-5146	Assy, LDI Breakout Box, LDI-4
03-5147	Assy, LDI Breakout Box, LDI-4-488
03-0783	Box to create bend in metal-clad f/o
02-2054	Power supply unit for LDI
02-4337	Universal translator: Enables communication and control of 3rd party devices when the hardware is not natively supported. Includes 12V Power Supply
02-5301	Adjustable WF collimator: Zeiss AxioObserver with LLG input