

# High-Powered LED Stable Light Intensity



**High Power :  $360 \text{ mW/cm}^2$**   
**High Stability :  $<0.3\%$  Drift**  
**Small Fluctuation :  $<0.015\%$**

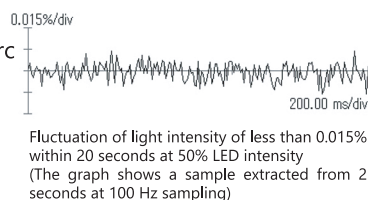
## High Power

LEX3 consists of a high-powered LED chip. The intensity can be simply adjusted with coarse and fine dials on the front panel in the range between 0 and 150% (100% to 150% intensity can be used for short-pulse illumination lasting less than 1 second).

Model	LEX3-B	LEX3-G
Center Wavelength	465 nm	530 nm
LED intensity at 100% setting	approx. $410 \text{ mW/cm}^2$	approx. $360 \text{ mW/cm}^2$
LED intensity at 150% setting	approx. $490 \text{ mW/cm}^2$	approx. $410 \text{ mW/cm}^2$

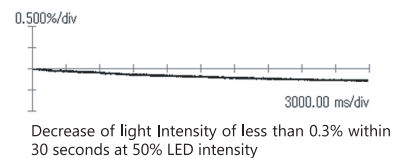
## Small Fluctuation (Short-Term Stability)

LED light source does not produce any flicker or large arc fluctuations, in comparison to Xenon and Mercury light sources. LEDs are an ideal illumination source for high speed imaging.



## Long-Term Stability of Light Intensity through Feedback Mechanism

Light intensity of LEDs tends to decrease when turned on for long periods of time. To keep light intensity constant, LEX3 adopts an original feedback technology.



## Synchronized Lighting with External Signal

The light can be turned ON/OFF by signals from external devices such as an imaging system or pulse generators. LEX3 does not use any mechanical shutter, so there is no noise caused by vibration or sound.

## Adjustment of Light Intensity by External Signal

Light intensity can be controlled by analog voltage signal from external device. 3.3V voltage input can set about 100% light intensity.

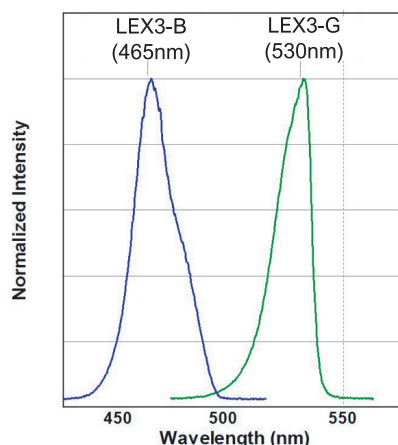
## Specifications

	LEX3-B	LEX3-G
Center Wavelength	465 nm	530 nm
LED intensity at 100% setting (*1)	approx. 410 mW/cm <sup>2</sup>	approx. 360 mW/cm <sup>2</sup>
LED intensity at 150% setting (*2)	approx. 490 mW/cm <sup>2</sup>	approx. 410 mW/cm <sup>2</sup>
Light Fluctuation (*2)	approx. <±0.015%	
Change in light intensity in 30 seconds (*2)	approx. <±0.3%	
Intensity stabilization system	PD feedback circuit	
Shutter Control	Manual control: manual key switch on the front panel & interlock switch External control: triggered by over 1.5V input	
Intensity Control	Manual control: 0-100%, 100%-150% (only for short-pulse illumination) External control: 0-150% control by voltage input (100% by 3.3V input)	
Monitoring Output	Output of voltage signal (3.3V output at 100% intensity)	
Protection Function	Overcurrent protection, overheat cutoff	
Environmental Conditions	Indoor use, temperature 0°C to 35°C Humidity 0 to 70%	
Cooling Methods	Heat sink and electric cooling fan	
Light Guide	Sold separately (Moritex's light guide recommended)	
Dimensions and Weight	150mm(W) x 250mm(D) x 83mm(H) / 2kg	
Input Voltage and Power Consumption	100-220V, 30W	

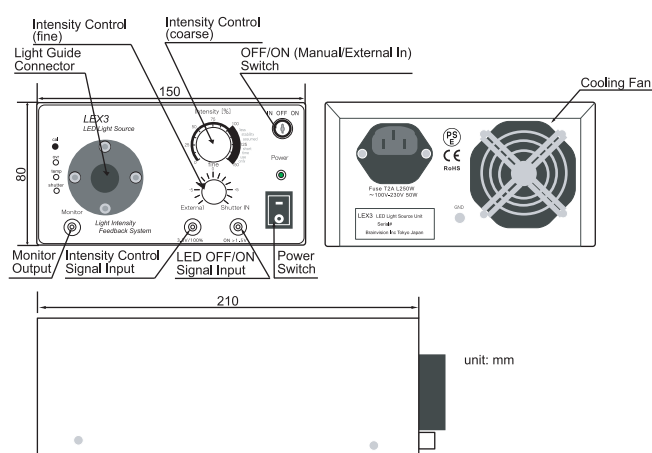
(\*1) Measured value at output end of straight light guide (glass type, bundle diameter of 10mm, length of 2200mm).

(\*2) <50% intensity. Measured with fast CCD imaging system, MICAM02-HR (30 seconds at 100 frames/second, 4 times averaging).

## Wavelengths



## Dimensions



## Applications

- Excitation light source for MiCAM high speed fluorescence imaging systems using indicators including voltage-sensitive dyes, calcium indicators, and genetically encoded optical probes such as voltage-sensitive proteins.
- Light source for stimulation to light-activated protein such as channelrhodopsin 2 (ChR2) and halorhodopsin (NpHR).
- Other imaging applications requiring stable and bright light.

\* Specifications & appearance are subject to change without prior notice due to continuous improvements.

\* All products are made in Japan.

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