



TIRF Technologies

Sensing Biomolecular Interactions



Multicolor Computer-Controlled LED/Laser Illuminator MLI-7



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The Multicolor LED/Laser Illuminator MLI-7 is designed for multicolor TIRF microscopy, FRET and FRAP experiments, and other fluorescence microscopy and spectroscopy applications. Seven positions of light sources in MLI-7 can be populated with any combination of UV, green and red lasers, and/or super bright LEDs that cover the entire range of spectrum from UV to near IR wavelengths. Peak wavelengths, spectral ranges, and optical power of LEDs and lasers are listed in Table. Before you order MLI-7, we will recommend specific configuration of lasers, LEDs and bandpass filters, which corresponds to your applications. MLI-7 is a microprocessor-based illuminator, which controls each channel independently with response time < 1 ms. The control is performed electronically. There is no filter wheel or other moving parts. On/Off of each channel and the intensity of light is controlled independently: all seven LEDs/lasers can be switched on and off simultaneously or in any sequence with any intensity from 0 to 100% per channel. The illuminator can be used as a standalone device, which is programmed via touch-screen LCD display. MLI-7 can also be controlled by external computer connected via USB, Ethernet, or wireless ports. The illuminator is also equipped with TTL interface to control MLI-7 by a third-party software. Optical output features standard SMA 905 connector. Custom-designed optical connectors and customized modulation programs are available at the moment of ordering.

Specifications

Number of LED/Laser light sources	1 - 7
Optical power per channel -	< 200 mW
Optical output stability	99% / color
Response time	< 1 ms
Lifetime LED	> 10,000 hours
Optical output connector	standard SMA custom-design

Table. Peak wavelengths, spectral ranges and power of LEDs and lasers

LEDs	Peak λ , nm	Range λ , nm	Power, mW
UV	400	390 - 410	60
Royal Blue	455	440 - 460	150
Blue	470	460 - 490	100
Cyan	505	490 - 520	100
Green	530	520 - 550	80
Amber	590	585 - 597	80
Red	627	620 - 645	70
Lasers			
UV	405	+/- 5	140
Green	532	< 1	150
Red	635	+/- 5	100
Red	650	+/- 5	200

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