

MLS Light Sources for Microscopes

- Compatible Microscopes:**
- *Leica DMI,*
 - *Nikon Eclipse Microscopes,*
 - *Olympus IX & BX Microscopes,*
 - *Zeiss Axioskop*

Mightex microscopy light sources are collimated LED light sources designed for research microscopes. These light sources are ready to be mounted on existing lamp ports of various microscopes to replace traditional light sources such as incandescent lamps and arc lamps. MLS-series of microscopy light sources employs an aspherical collimating optics to generate uniform illuminations with high intensity at the microscope sample plane.

LEDs have many desirable features for microscopy applications. For example LED intensity can be directly modulated through driving current. LEDs also have fast response time, in some cases as short as 10ns. The output spectrum of a white LED changes little with driving current eliminating the needs for neutral density filters. Single-color LEDs have high spectral density making them suitable for applications such as multi-spectrum microscopy. With the state-of-the-art high-brightness technology spectral density of LEDs have reached or exceeded that of some short-arc lamps. LEDs may also be pulsed at current much higher than normal rating, resulting in higher output. Another feature of LEDs is their high stability and repeatability of output intensity compared to that of short-arc lamps.



PERFORMANCE SPECIFICATIONS

Part Number	Wavelength (nm)	Maximum Driving Current (mA)	Forward Voltage (V)	Output Power (mW)
MLS-0365-XXX	365	500	3.8	80
MLS-0385-XXX	385	500	3.8	100
MLS-0400-XXX	400	350	3.5	100
MLS-0455-XXX	455	1000	3.9	280
MLS-0470-XXX	470	1000	3.9	200
MLS-0505-XXX	505	1000	3.9	135
MLS-0530-XXX	530	1000	3.9	100
MLS-0590-XXX	590	1000	3.9	65
MLS-0617-XXX	617	1000	3.9	280
MLS-0625-XXX	625	1000	3.9	280
MLS-0657-XXX	657	350	2.4	100
MLS-0740-XXX	740	350	2.2	65
MLS-0850-XXX	850	1000	2.1	175
MLS-0940-XXX	940	700	1.5	100
MLS-5500-XXX	cool white 5500K	1000	3.9	170
MLS-4000-XXX	warm white 4000K	1000	3.9	180

Low-Cost LED Based Epi-Fluorescence Microscopy Solution

Episcopic(EPI) or reflective/incident illumination is commonly used in biological microscopy to excite fluorescence. However, most less-expensive biology microscopes such as those used in education and clinic applications are not equipped with epi-fluorescence illuminators. Even in more sophisticated biology microscopes EPI illuminators are only an expensive option. To make epi-fluorescence illumination available on more microscopes, an inexpensive illuminator that can fit on virtually any microscopes without alteration is called for.

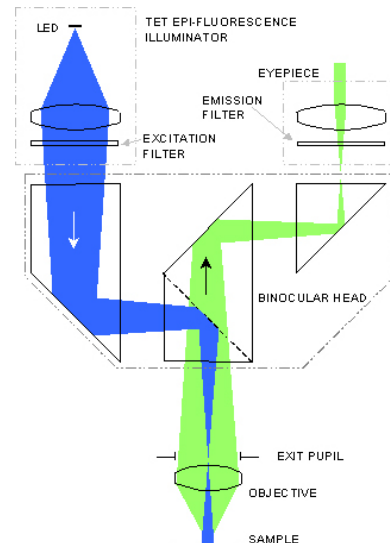
Through-eyetube(TET) EPI illuminators are a unique class of microscope illumination solutions developed and patented by Mightex Systems. A TET-EPI illuminator sends light through one of the eyetubes of a typical binocular head. Light passes through microscope objective and illuminates the sample under observation, same as in a conventional EPI illumination setup. The TET-EPI illuminator fits into an eye tube just like a regular eyepiece. Image can be observed through the other eyepiece or the phototube. Alternatively, TE-EPI illuminator can be inserted into the phototube. In this configuration, images maybe observed through both eyepieces if the microscope is equipped with a beamsplitter between the phototube and the eyetubes.



PERFORMANCE SPECIFICATIONS

Parameters	Specification	Unit
Optical power density at exit pupil	>2	mW/cm ²
Excitation filter center wavelength	470	nm
Excitation filter bandwidth	40	nm
Eyepiece magnification	10x	-
Emission filter wavelength	510nm long-pass	-

SCHEMATIC DIAGRAM of TET-EPI



For more details about this product, please call 1-416-840-4991 or email sales@mightex.com.

FluoFlux Fluorescence LED Illuminators for Stereo-Microscopes

Stereo fluorescence has become a mainstream tool for developmental and cellular biology examinations. With fluorescence labeling, researchers can use stereo-microscopes to observe living organisms, screen samples, as well as to sort or dissect samples. Despite the growing needs, most stereomicroscopes are not equipped with fluorescence capabilities. Only high-end research stereomicroscopes have fluorescence excitation and imaging options. These options are also fairly expensive, often running into tens of thousands of dollars.

Mightex has developed and patented FluoFlux™, a LED-based stereo fluorescence solution that can be retrofit on most stereo microscopes. The solution includes a reflective excitation source and an emission filter fixture (note: filter not included) that can be mounted on lens barrel of the microscope.



PERFORMANCE SPECIFICATIONS

Table 1. LED Emitter Specifications

Code	Description	Peak Wavelength (nm)	Iop (mA)	Vop (V)	Radiant Flux (mW)
0309	3W UV	395 ~ 410	700	3.5	350
0301	3W Royal Blue	455	1000	3.9	450
0302	3W Blue	470	1000	3.9	480
0303	3W Cyan	505	1000	3.9	280
0304	3W Green	530	1000	3.9	135
0305	3W Amber	590	1400	3.0	210
0306	3W Red-Orange	617	1400	3.0	660
0307	3W Red	625	1400	3.0	630
0208	2.4W Near Infrared	850	1000	1.8~2.4	375

Table 2. Emission Holder

Holder Code	Inner diameter (mm)	Emission Filter diameter (mm)
66	66	36
60	60	36
55	55	36
50	50	36
45	45	36
00	No holder	NA



光技術をサポートする
株式会社オプトサイエンス
<http://www.optoscience.com>

東京本社 〒160-0014 東京都新宿区内藤町1番地 内藤町ビルディング
 TEL: 03 (3356) 1064 FAX: 03 (3356) 3466 E-mail: info@optoscience.com
 大阪支店 〒532-0011 大阪市淀川区西中島7-7-2 新大阪ビル西館
 TEL: 06 (6305) 2064 FAX: 06 (6305) 1030 E-mail: osk@optoscience.com
 名古屋営業所 〒450-0002 名古屋市中村区名駅2-37-21 東海ソフトビル
 TEL: 052 (569) 6064 FAX: 052 (569) 8064 E-mail: ngo@optoscience.com