

Mic-LED Light Source Series

Collimated LED Light Sources for Microscopy

Ver. 2

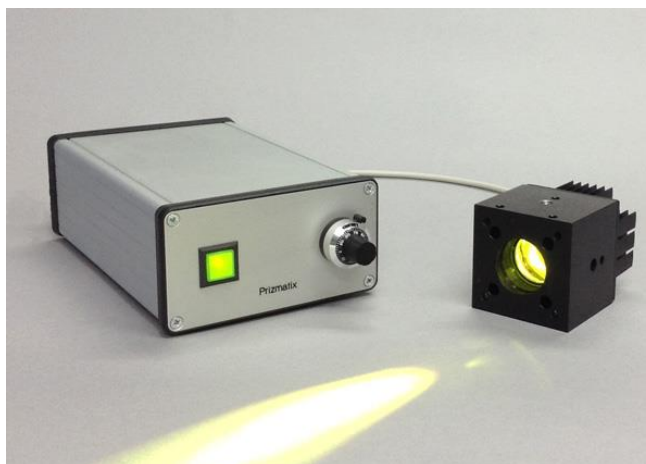
Introduction

Prizmatix Modular Mic-LED Light Source products series provides an affordable and expandable solution for fluorescence excitation in upright and inverted fluorescence microscopes. Mic-LEDs are available in a wide range of a specific excitation wavelengths (please see full list below).

The Mic-LED head comprises a High Power single chip LED and built-in adjustable AR coated aspheric lens collimator to provide collimated beam suitable for direct connection to epi-fluorescence port of microscope. The XY adjust screws enable precise alignment of the LED system to microscope light path. The LED has excellent thermal coupling to the body of Mic-LED or heat sink providing excellent thermal management. Each Mic-LED is shipped with specific test report providing information on total beam power and emission spectrum.

Mic-LED modules can be easily combined by dichroic Beam Combiner OptiBlocks to create various multi wavelength excitation system. The multi wavelength system can mix all Prizmatix collimated LEDs: Mic-LED, UHP-LEDs and UHP-T.

The Mic-LED current controller BLCC-04 can drive in either continuous or pulsed modes.



Key Features

- High Power LED at numerous wavelengths
- Long life, no lamp replacement required
- Adaptors to epi-fluorescent ports of Olympus, Nikon, Zeiss and Leica. Also compatible with standard SM1 (1.035"-40) thread
- No excessive heat, no speckles, no vibrating or moving parts
- Expandable system – user can add excitation wavelengths to create multi-wavelength system
- Precisely adjustable power by 10 turns potentiometer or Analog Input (0-5Vdc)
- Low optical noise (<0.02% rms)
- Fast triggering via TTL input (Rise / Fall time <3 μ s)
- Opto-Isolated TTL and Analog Inputs to eliminate ground-loop
- USB control (optional)

Optical Output Power Specifications:

Mic-LED power output is dependent on specific LED wavelength used in the product. Please contact us for power data for specific wavelength and fiber. Following table shows few examples for collimated Mic-LED as used in microscopy and for Mic-LED equipped with Fiber Couple Adaptor (FCA), for full table of standard available wavelengths and power levels please see: <http://www.prizmatix.com/micled/Mic-LEDs.aspx>

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Product	Collimated Output Power	Fiber output Power*
Mic-LED-365	300 mW	100 mW
Mic-LED-385	600 mW	130 mW
Mic-LED-460	400 mW	130 mW
Mic-LED-630	300 mW	100 mW

(*) Fiber output power is for Polymer Optical Fiber, core 1500um, NA 0.5, length 1m connected to FCA adaptor connected to Mic-LED head.

Electrical Specifications:

Typical Optical RMS Noise (DC-1MHz)	%	< 0.05
Modulation inputs (TTL and Analog Input)		Optically isolated BNC connectors
Digital modulation frequency	Hz	DC-40000
Rise / Fall time (10% - 90%)	µs	<5 / <3
Analog input voltage range	V	0-5
Analog modulation frequency	Hz	DC-150
BLCC-04 Input Voltage	V	12
Power Adaptor Input		100-240 VAC, 50/60Hz, 0.7A

General Specifications

Operation temperature range	°C	10 - 35
Storage temperature range	°C	-10 - 55
Operating relative humidity (Non-condensing)	%	<90
Mic-LED dimensions		See drawing below
Mic-LED weight	g	350
BLCC-04 Dimensions		See drawing below
BLCC-04 Weight	g	430
Power adaptor dimensions (L x W x H)	mm	90 x 53 x 35
Power adaptor weight	g	190
Power Adaptor Safety		

Optional Accessories

For more details on optional accessories please see:

<http://www.prizmatix.com/optogenetics/Optogenetics-LED-Light-Sources-and-Fiber-Optics.htm>



Fig. 2: Multi-wavelength light source assembled by 3 x Mic-LED, 2 x Beam Combiners, 1 x Fiber Coupled Adaptor.

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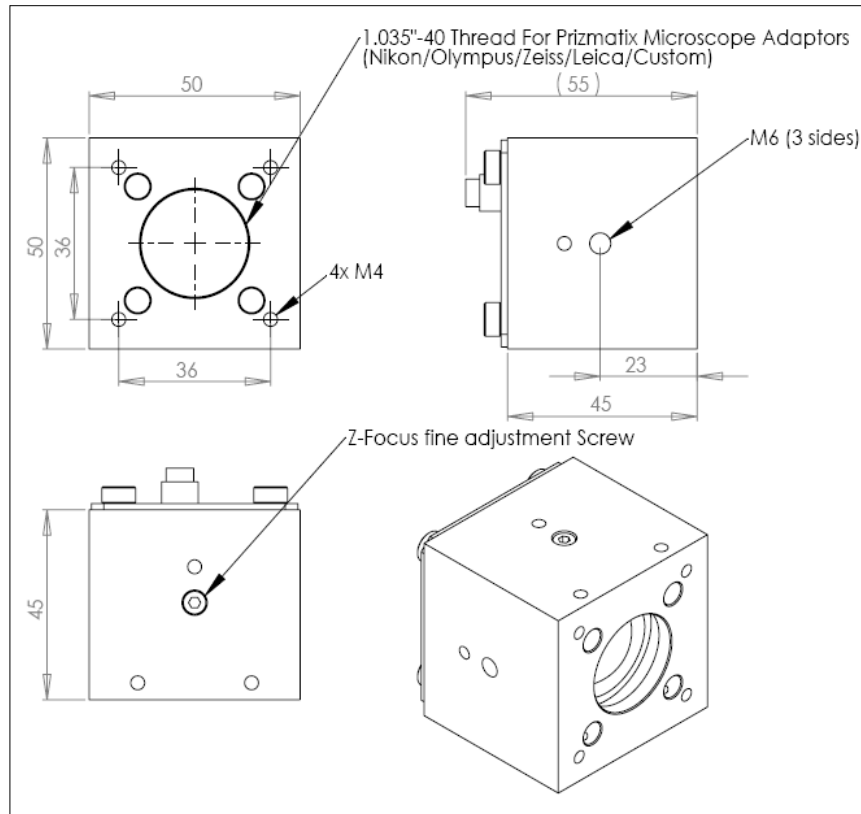
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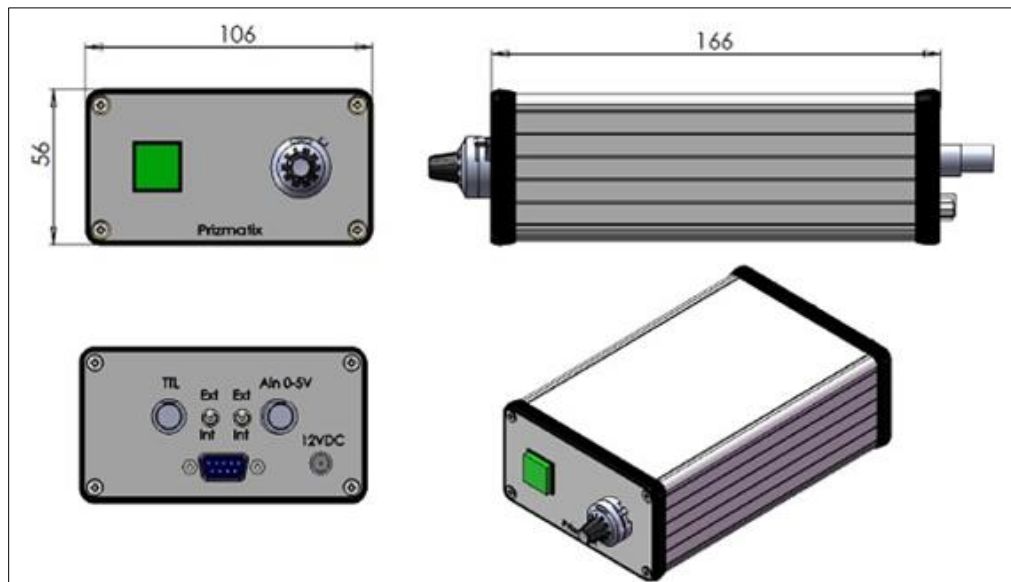


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Mic-LED Head Mechanical Drawings



BLCC-04 LED Current Controller Mechanical Drawings



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