

UHP-M Ultra-High Power UV-Visible LED Light Source Fluorescence Microscopy

Ver. 07

Introduction

Prizmatix UHP-M Dual-LED light engine is designed to substitute the Metal-Halide and Mercury lamps in routine fluorescence microscopy applications. Combining an Ultra-High-Power Broadband White LED (>55 Watt) and a High-Power UV LED (>10 Watt) it offers extremely high power for most popular fluorescent dyes.

Totally self-contained with all necessary driver electronics and thermal management built in and no moving parts the UHP-M offer superior illumination, simple integration and advanced features. No special controller box is required to operate the light-engine if used at maximum power. Besides standard TTL and analog inputs, the optional digital console and USB-Interfaces enable a full range of control configurations (see below).



Key Features

- Uniform Illumination from a single large chip Ultra High Power Broadband White LED. No diffuser needed as with LED arrays.
- Uniform UV illumination from single High Power UV LED.
- Adaptors for Olympus, Nikon, Zeiss and Leica microscopes.
- Low optical noise; No shutter needed.
- Large heatsink for fan-free thermal management.
- Optically isolated fast TTL and Analog inputs for each channel.
- Optional console enables convenient power adjustment.
- Vibration free, no moving parts. Optional detached fan for applications requiring extra cool operation.
- Each LED has independent adjustable focus.
- Easy integration with popular software packages like uManager, LabView, Matlab etc. via optional USB-Interface. Long life (no lamp replacement required).



Optional Console



Optional USB or RS232 Interface

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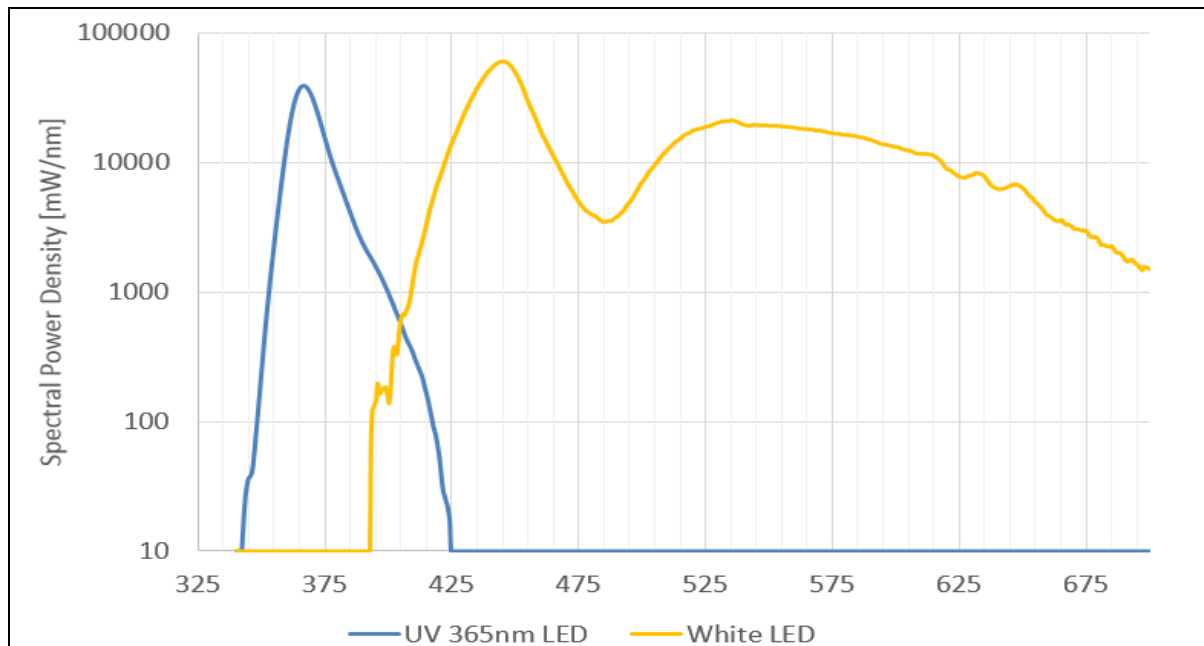
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Optical Specifications

Optical power output UV channel (365nm)	W	> 0.6
Optical power output White channel (5665 °K)	W	>4.0



Electrical Specifications

Digital modulation (TTL Input)	Hz	DC-20000
Analog modulation (Analog Input)	Hz	DC-100
Analog power control	%	0-100
Input Voltage	V	12
Power Adaptor Safety		

General Specifications

Operation temperature range	°C	10 - 35
Storage temperature range	°C	-10 - 55
Operating relative humidity (Non-condensing)	%	<90
Dimensions		See drawing below
Illuminator weight	g	750

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System Configurations

The UHP-M DualLED illuminator and its control units (UHP-M-Console and UHP-M-USB or UHP-M-RS232) can be assembled on microscope in several various configurations as described in following figures.

Configuration A: Basic On/Off - mimics the standard Mercury or Metal-Halide lamp.	
Configuration B: Additionally, to configuration A: optional camera synchronization by connecting the camera's Trigger out signal to UHP-M TTL input.	
Configuration C: Additionally, to configuration B: UHP-M power is manually controllable by wired console.	
Configuration D: Additionally, to configuration B: UHP-M power can be controlled by a Windows software such as Micro-Manager via USB or RS232	
Configuration E: UHP-M power can be controller either by software or manually. The latest change will take over the LED control. Both USB and RS232 interface units available	

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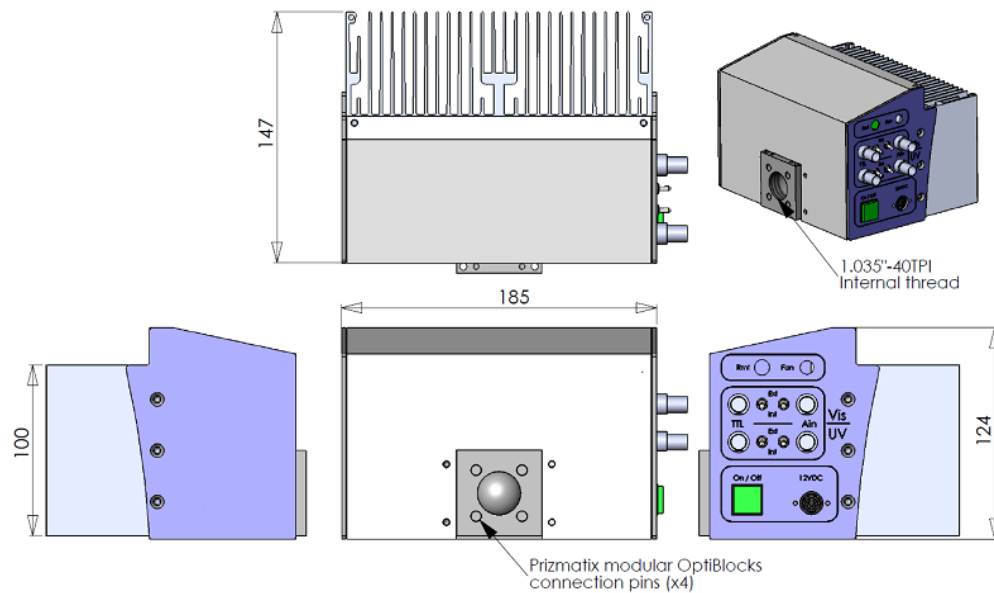
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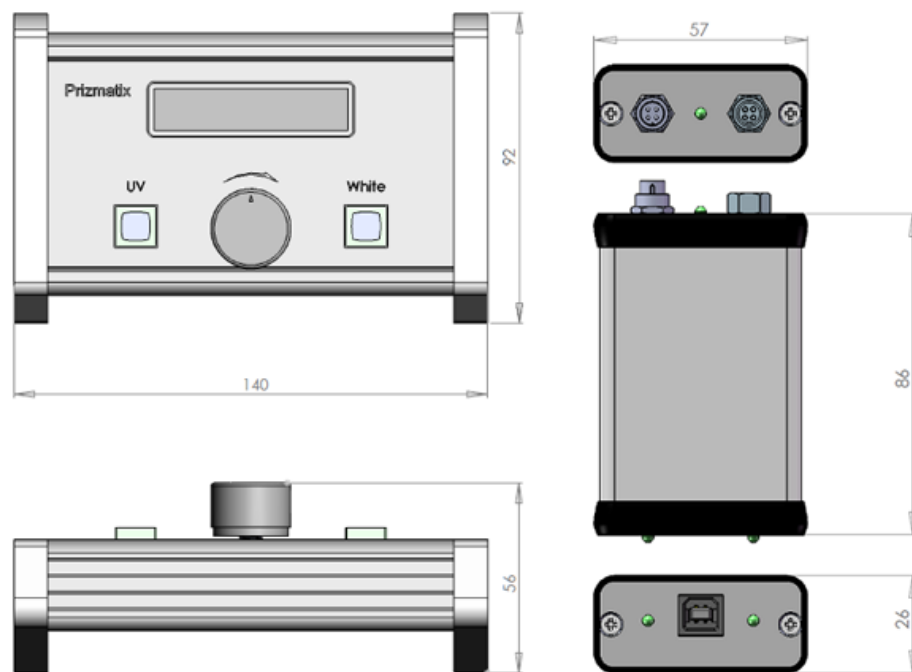
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Mechanical Drawings



UHP-M main body



UHP-M-Console (left) and UHP-M-USB (right) control units
(UHP-M-RS232 has same dimensions)

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Ordering Information

Item Description	P/N
Recommended package for epi-fluorescence illumination. Ideal for: • Routine microscopy • Cell culture microscopy <u>Package includes:</u> • UHP-M LED Head comprising Ultra High Power White LED and UV 365nm LED • UHP-M-Console - Wired remote console with display • Power adaptor and power cord • Microscope adaptor: N for Nikon / O for Olympus / Z for Zeiss / L for Leica microscope type	UHP-M-Kit-Type (Type = N / O / Z / L)
UHP-M LED Head comprising Ultra-High-Power White LED and UV 365nm LED. Standard features: advanced current drivers, optically isolated TTL and Analog inputs for each channel. Power adaptor and power cord included.	UHP-M-DualLED
UHP-M LED Head comprising Ultra-High-Power White LED. Standard features: advanced current drivers, optically isolated TTL and Analog input. Power adaptor and power cord included.	UHP-M-White
Microscope adaptor for UHP-M illuminator Please specify N for Nikon / O for Olympus / Z for Zeiss / L for Leica microscope type.	Mic-ADPT-Type (Type = N / O / Z / L)
Wired Console with OLED display for manual control of UHP-M-DualLED functions. Cable included.	UHP-M-Console
Wired control unit for UHP-M-White.	CTRL-M
USB interface to control UHP-M from Windows software, uManager etc. Serial, LabVIEW. Example control code is available. Cable included.	UHP-M-USB
RS232 interface to control UHP-M from Windows software, uManager etc. Serial, LabVIEW. E example control code is available. Cable included.	UHP-M-RS232

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