

# Prizmatix

## UHP-X-LED Ultra-High-Power Mounted LED Source

### Introduction

The UHP-X-LED Ultra High Power LED source is a state-of-the-art lighting solution designed for laboratory-grade high-performance applications. It boasts an ultra-powerful Luminus Devices® LED mounted on a high-performance heatsink and comes equipped with a high-current driver and power control circuits. The UHP-X-LED empowers users to customize illumination by attaching their preferred optics, unlike pre-collimated LED sources such as the UHP-T-LED, enabling precise tailoring for diverse experimental needs. It features standard SM1, SM2, and 30mm cage system threads, ensuring seamless compatibility with a wide range of optic sizes and types for easy assembly of custom optics.



### Key Features

- Single chip Ultra High Brightness LED
- Simple integration for OEM
- Optically isolated TTL and Analog input
- Fast TTL switching
- Remote control by I<sup>2</sup>C
- Optional Console for Power and ON/OFF control
- Low optical noise



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## Applications

- Custom setup on an optical table.
- Custom setups with SM1 or SM2 tubes or 30mm cage system.
- Custom-made microscopes and illumination setups.

## Optical Specifications

Product P/N	Peak $\lambda$ [nm]	Centroid $\lambda$ [nm]	FWHM [nm]	Color Temp [K]	Total Power [mW]
UHP-X-365	369	372	15	-	16000
UHP-X-385	386	388	13	-	20000
UHP-X-405	404	406	14	-	20000
UHP-X-460	456	460	24	-	17000
UHP-X-520	525	528	43	-	6500
UHP-X-560	560	570	97	-	8500
UHP-X-625	627	624	19	-	9000
UHP-X-HCRI	-	-	-	5700	7000
UHP-X-WCS	-	-	-	6500	13000
UHP-X-WDH	-	-	-	6000	11000
UHP-X-WDS	-	-	-	5665	13000
UHP-X-WSS	-	-	-	8500	15000

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## UHP-X-LED Control Options

Prizmatix offers several types of control options for the UHP-X-LED. The standard product can be used without any external device simply by switching the main switch the LED will operate at maximum power (see Configuration A below).

The standard product has TTL and Analog Inputs, both opto-isolated. These inputs can be used for creation of fast pulses and for power control (see Caonfigurations B, C below).

The CTRL-F control unit enable convenient manual control of UHP-X-LED power from maximum to off (see Configuration D below). For control of the power from computer we offer UHP-F-USB a small interface box which enables Windows or Mac to control the light source over USB. Software is freely available at Prizmatix website. API is availie upon request (see Configuration E below).

The CTRL-F and UHP-F-USB can be connected in chain so user can operate the LED manually and from computer without a need to disconnect and reconnect cables (see Configuration F below).

If UHP-X-LED need to operate in Pulsed mode the Fuction Generator can be used with any of describer power control options, so the intensity of the pulses can be controller through CTRL-F or UHP-F-USB or eben by Analog input. (as example see Configuration G below).



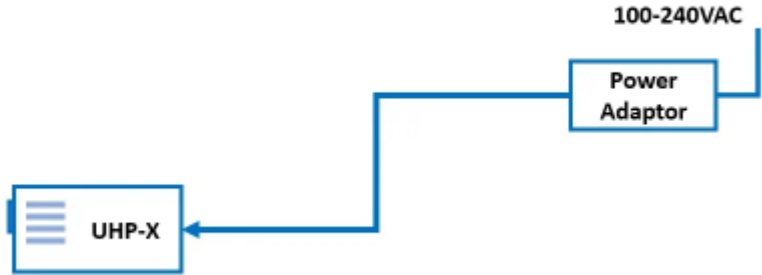
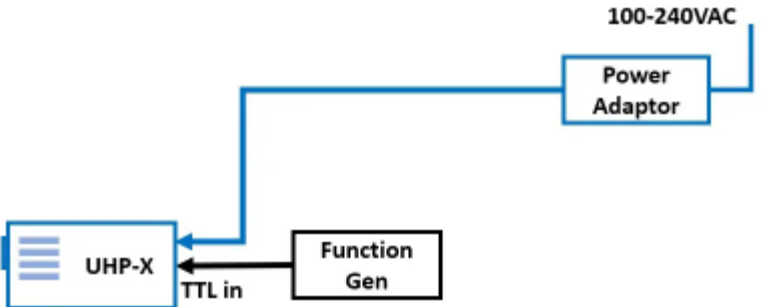
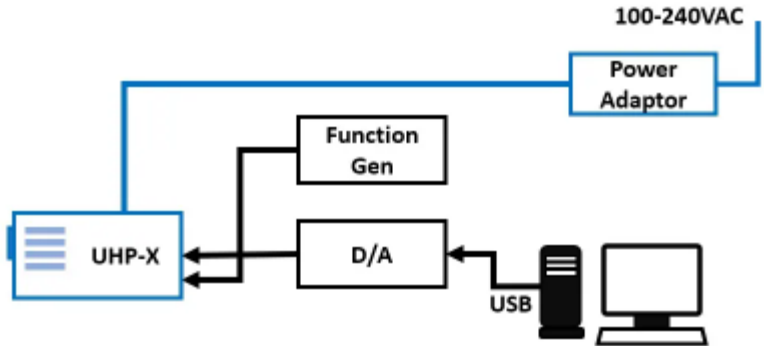
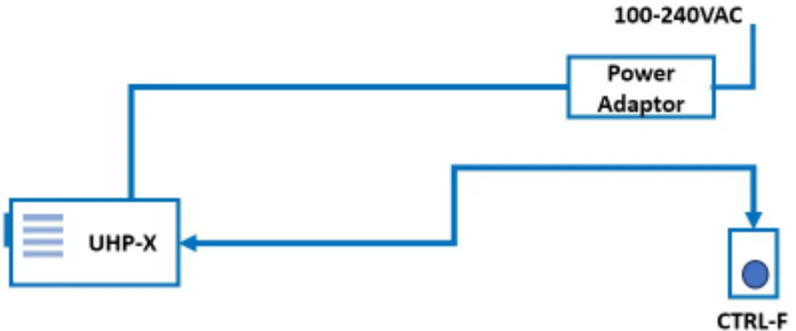
### Electrical Specifications

Digital modulation (TTL Input)	Hz	DC-30000
Analog modulation (Analog Input)	Hz	DC-100
Analog power control	%	0-100
ON/OFF		Power switch or by TTL signal
Supply voltage	V	12
Power adaptor input		85-264 VAC, 47-63Hz, 1.5A

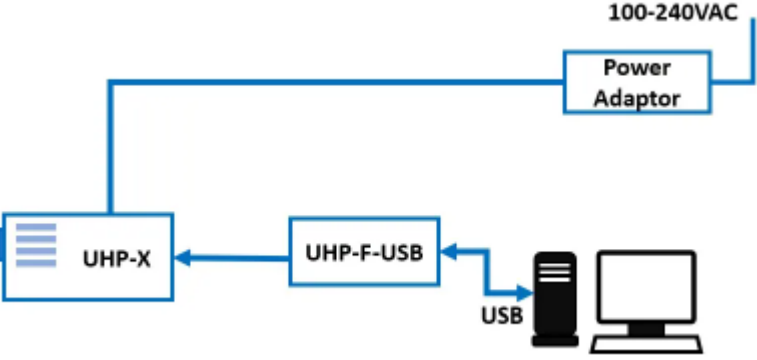
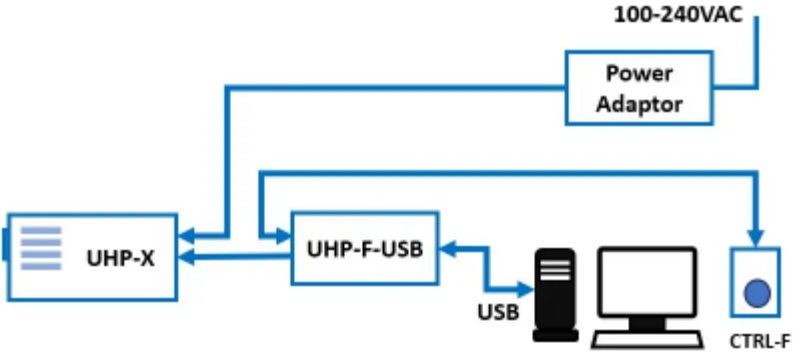
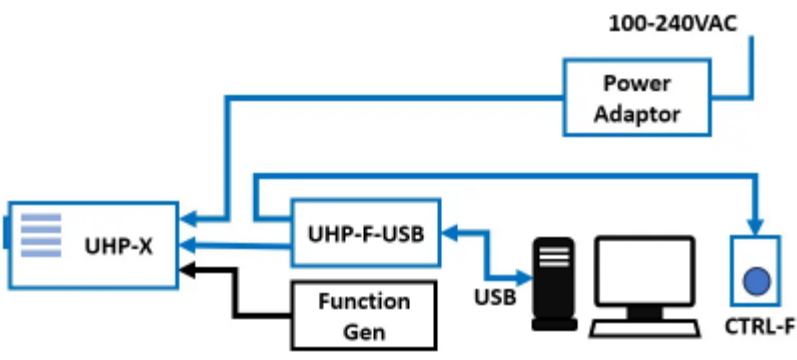
### General Specifications:

Operation temperature range	°C	10-35
Storage temperature range	°C	-10-55
Operative relative humidity (Non condensing)	%	<90
Dimensions		See drawing below
Head weight	g	750
Power adaptor dimensions (L x W x H)	mm	167 x 67 x 35
Power adaptor weight	g	590
Power adaptor safety		

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<p><b>Configuration A:</b></p> <p>Basic On/Off - mimics the standard lamp. The UHP-F will work at maximum current.</p>	
<p><b>Configuration B:</b></p> <p>Additionally, to configuration A: a Function generator can be connected to the TTL input of UHP-F to create fast pulses.</p>	
<p><b>Configuration C:</b></p> <p>Additionally, to configuration B: The LED current can be controlled through an Analog Input BNC connector. The analog signal can be, for example, from a USB D/A module.</p>	
<p><b>Configuration D:</b></p> <p>The LED current can be manually controlled through CTRL-F. A small, wired console with a potentiometer that sends I2C control signals to the UHP-F</p>	

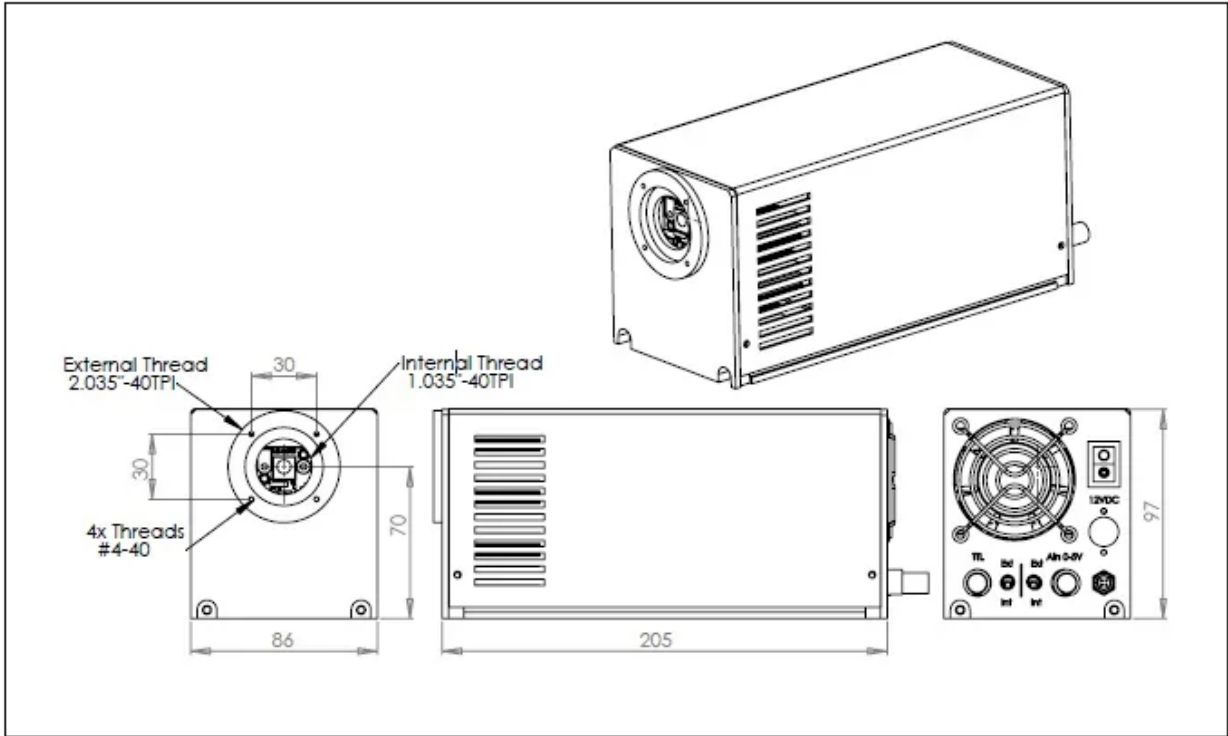
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<p><b>Configuration E:</b></p> <p>The LED current can be controlled from a computer by UHP-F-USB interface. Control software for PC or Mac is provided. API is available upon request.</p>	
<p><b>Configuration F:</b></p> <p>Configurations D and E can be combined to create versatile control. Manual and computerized at the same time.</p>	
<p><b>Configuration G:</b></p> <p>Additionally, to configuration F: a Function generator can be connected to the TTL input of UHP-F to create fast pulses.</p>	

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## Mechanical Drawings

UHP-X LED head



\* Specifications subject to changes without notice