LED Fiber-Optic Illuminator

66088-LED(50)

The 66088-LED and 66088-LED50 fiber illuminators are economical, energy efficient white light LED light sources. Flexible but simple operation methods and compact size allow for easy integration into any existing setup, especially fiber coupled applications.

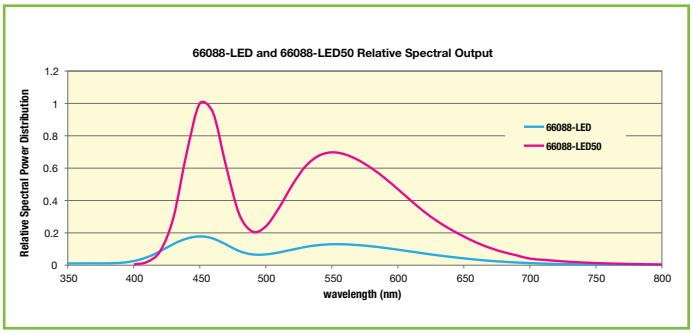
Ideal for microscopy, spectroscopy, and machine vision illumination, the 66088-LED and 66088-LED50 fiber illuminators provide high power output, variable intensity control, and a versatile light guide adaptor socket.

The advantage of fiber coupling allows a single source to be configured for several illumination techniques, such as backlighting or ring lighting.

Features

High intensity white LED light source

The light output of the fiber illuminator is provided by a 15 W or 50 W white light LED. This visible light spectrum excludes ultraviolet and infrared wavelengths which can be undesirable or even damaging in other spectroscopy systems. An integrated heat sink with fan cooling extends the expected lifetime of the source. Using specially designed LED lamp beads and a unique condenser system, greatly enhances the output power of the source.



- High power white light LED source offers a longer lifetime than traditional lamps
- Minimal UV and IR wavelengths to avoid sample damage
- Compact and sturdy housing for laboratory and industrial use
- Easily integrated into existing systems or used as a plug and play standalone device
- Variable intensity control and external trigger mode for adjusting the light level
- Versatile adaptor socket for easy coupling to a wide variety of light guides

Easy integration for various applications

With four methods of brightness control and an adapter on the front panel that can accept a wide variety of light guides, these fiber illuminators can easily be integrated into any existing system requiring its bright, white light spectrum. For users that simply want a plug and play, standalone light source, an AC power adapter is included and the sources full capability can be accessed by using the light intensity knob or adjust buttons on the front panel of the light source.

Variable intensity control and external trigger mode

The output intensity of the 66088-LED and 66088-LED50 can be controlled in four ways:

1) A manual knob or adjust buttons on the front panel of the light source increases or decreases the light intensity proportionally with a simple turning of the knob or press of a button.

2) Analog control: An external DC power supply capable of outputting 0-5 VDC will allow for brightness control with 0 VDC providing no light output and maximum brightness output at 5 VDC. Varying the voltage between 0-5 VDC will change the output light intensity proportionally.

3) Pulse Width Modulation (PWM): Utilizing PWM control enables the light source to be controlled by a digital signal, from a microcontroller for example. A digital signal also produces less heat than an “on” or “off” input signal into the light source. The lifetime of the light source is also prolonged as the LED is only influenced by the “on time” provided by the digital input signal. PWM control is as simple as providing a 5 V, 200 Hz input signal, and increasing the duty cycle to increase the brightness of the light source.

   The fiber illuminator can operate in high speed external trigger mode with a response time less than 10 µsec. The external trigger mode enables highspeed strobe illumination.

4) Exclusive to the 66088-LED, an RS232 port is available for intensity adjustment as well as via remote commands.

Versatile light guide adapter socket and light guide

The light guide adapter socket on the front panel of the fiber illuminators is adjustable to accept any existing light guide. The fiber illuminators include a 20 mm nosepiece and for optimal coupling to 11 mm fiber light guides, 66088-LED-ADAPT is sold separately.

Long lifetime

As a solid-state LED light source, these illuminators hold several advantages over traditional arc and QTH lamp light sources. They are true plug and play light sources which do not require installation of a lamp into a housing or configuring a power supply for operation. LEDs are also much more energy efficient and can be housed in a more compact package than a traditional arc or QTH lamp setup. In addition to its convenience in operation and compact size, the 66088-LED and 66088-LED50 have a lifetime of 30,000 hours. Their low price, all in one package, and ease of operation when compared to standard arc and QTH light sources, make these illuminators the preferred alternative.

LED Specifications

Model	66088-LED	66088-LED50
Output Power (W)	15	50
Optical Power (Watt)	0.10	0.98
Input Voltage	AC 96-240 V power adapter, 50/60Hz / DC 24V, 1.0 A	AC 90-250V power adapter, 50/60Hz / DC 24V, 1.5 A
Maximum Power Consumption (W)	15	65
Average Illuminance (Lx)	Approximately 143,000	572,000
Color Temperature (K)	5,000	6,500
Net Weight (kg)	1.8	2.2
Dimensions (L, W, H)	168 x 70 x 103 mm	225 x 100 x 111 mm
Spectral Range (nm)	420 - 780	
Illumination Type	Fiber Optic Illuminator	
Compatible Light Guide Adaptor	20 mm interface	
Illumination Mode	Constant or Trigger	
LED Power Supply	Constant-Current System	
Intensity Control Option	0-100% (Manual/Analog control DC 0-5V/PWM 200Hz-100kHz 5V) Constant-Current System	
PC Interface	RS232	None
Lamp Life	Approximately 30,000 hr	
Cooling	Body + High Speed Fan	
Operating Temperature (°C)	0 – 50	
Relative Humidity (%)	20-80	
CE	Yes	Pending

Ordering Information

Model	Description
66088-LED	High intensity visible light LED source
66088-LED50	50W high intensity visible light LED source
66088-LED-ADAPT	Fiber Adaptor, 66088-LED and 66088-LED50 Fiber illuminator

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