



LED ILLUMINATION COMPONENTS

For machine vision and general illumination in microscopy applications, Operations Technology, Inc. now offers a new series of Constant Current, Microprocessor Based LED Controllers as well as a variety of LED illuminators for microscope and machine vision applications. These modern lighting solutions provide exceptional performance without the heat, bulky fiber-optic bundles, or frequent bulb replacement of tungsten-halogen lamps. OEM pricing is available for quantity orders.

7100-2679 'LIGHTHOUSE-6' - SIX-CHANNEL LED LIGHTING CONTROLLER

This unit allows for manual or computer control of 4 quadrants of LED Top lighting, as well as HAI-Lighting, and Profile Illuminators. **LIGHTHOUSE-6** comes with Windows applet software to allow "On-Top" display and recall of precise digital settings for all channels.



Specifications	
Dimensions	6.25" w X 7.75" d X 1.75" h
Weight	19 oz. (.53 kg)
Electrical Requirements	24VDC – 36 VDC, 2.1mm X 5.5mm DC jack, center positive
Output	0-500 mA, 15 pin D-Sub male
Serial	Baud=19200, Data, Bits=8, Stop Bits=1, Parity=0, 9 Pin D-Sub, male
Price	USD \$1,250.00

7100-2753 'LIGHTHOUSE-1' SINGLE CHANNEL LED LIGHTING CONTROLLER



This unit allows for manual or computer control of a single LED Lighting Module, with higher current capability for LED modules that require more power. **LIGHTHOUSE-1** comes with the same software as the **LIGHTHOUSE-6**.

Specifications	
Dimensions	3.25" w X 5.625" d X 1.5" h
Weight	8 oz. (.22 kg)
Electrical Requirements	24VDC – 36 VDC, 2.1mm X 5.5mm DC jack, center positive
Output	0-1 Amp, 15 pin D-Sub male
Serial	Baud=19200, Data, Bits=8, Stop Bits=1, Parity=0, 9 Pin D-Sub, male
Price	USD \$500.00

Operations Technology Inc., P.O. Box 408, Blairstown, NJ 07825 USA
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 Visit us on the Web: www.optek.net



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7100-2737 RING LIGHT (LENS MOUNTED)

This 40 Lamp module mounts directly to many of today's machine vision fixed and Zoom style lenses. Adapters for several lens configurations are available. When ordering, please ask about your lens. The **RING LIGHT** can accommodate the (Lens Mounted) Quadrangle light described below



Specifications	
Dimensions	1.25"D (mount) X 2.25" OD X 1.0" h
Electrical Requirements	160 mA, 3 pin micro CPC, 5mm White LED, 5500°K
Price	USD \$600.00

7100-2743 QUADRANGLE™ TOP ILLUMINATOR (LENS MOUNTED)



This White Light, 96 lamp, 4 Quadrant, module mounts to the 7100-2738 unit described above and can be height-adjusted to optimize the video image with essentially dark field illumination. The LEDs are mounted to illuminate at a shallow angle to the surface, minimizing glare from reflective horizontal surfaces.

Specifications	
Dimensions	3.625" ID (to LED's) X 5.0" OD X 1.0" h
Electrical Requirements	1 Amp (240 mA/quadrant), 8 pin micro CPC, 5mm White LED, 5500°K
Price	USD \$900.00

7100-2746 QUADRANGLE™ TOP ILLUMINATOR (LENS MOUNTED) – Same as above but equipped with Red LED's.

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9108-0092 **QUADRANGLE™ TOP ILLUMINATOR (LARGE)**

This 192 lamp, 4 Quadrant, Multiple Angle Top Lighting module can be used with microscopes, video measurement and inspection devices as well as off-the-shelf powered and manual Zoom Lenses. The incident light angle with respect to the stage surface can be optimized to further enhance edges of features in the image. The LEDs are arrayed in a dome-like structure in six rings. The rings are set at varying angles. The bottom ring shines inward at 7.5 degrees from horizontal, converging at a working distance of 0.1". The top ring shines downward at 70 degrees, converging at a 2.2" working distance. Therefore, the incident angle can be easily selected by simple vertical movement of the ring light assembly. This module requires independent mounting, as it is too large to mount directly to the lens.



Specifications	
Dimensions	2" ID X 5.0" OD X 1.5" h
Electrical Requirements	640 mA (160 mA/quadrant), 8 pin micro CPC, 5mm White LED, 5500°K
Price	USD \$1,800.00

7100-2637 **HAI-LIGHT™ (HIGH ANGLE OF INCIDENCE)**



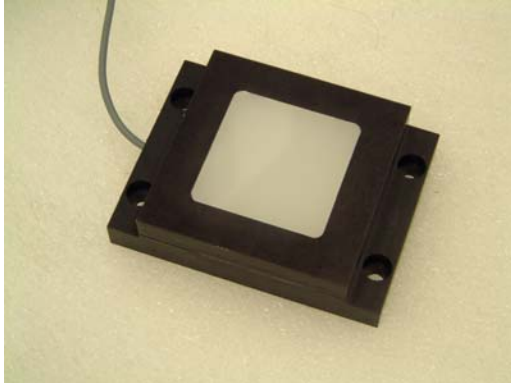
This 10 lamp module provides near on-axis performance without the heat, short lamp life, and halo effect typical of Coaxial units. Adapters are available for a number of lens configurations. When ordering, please let us know what lens you will be adapting to.

Specifications	
Dimensions	0.5" ID X 1.625" OD X 1.0" h
Electrical Requirements	40 mA, JP-1 mono phone plug, 5mm White LED, 5500°K
Price	USD \$500.00

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9108-0090 WHITE PROFILE ILLUMINATOR

9108-0101 RED PROFILE ILLUMINATOR

9108-0102 GREEN PROFILE ILLUMINATOR

Specifications	
Dimensions	3.188 w X 2.438" d X .75" h
Electrical Requirements	320 mA, 21 VDC, LED, 5500°K
Price	USD \$800.00

These 64 lamp modules provide a high-intensity, homogenous backlight for the back-illumination of specimens.

LED Lighting Characteristics to Note: The life expectancy of LED's (Light Emitting Diodes) is as great as 50 times that of the tungsten-halogen lamps normally associated with fiber-optic illumination. LED's also dissipate minimal heat. Therefore no noisy, vibrating fans are required and the illuminated sample will not distort from heat.

Quadrant lighting allows selective illumination from North, South, East, and West directions. Each quadrant has a large number of LED's for uniform illumination of the sample. As compared to typical angled illuminators that utilize several fiber-optic bundles, in the Quadrangle™ Illuminator each individual LED contributes a small percentage of the overall light. Therefore the specular component is minimized. This yields a superior, 'flat-field' image.

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