

OTFI-0075 and OTFI-0076 **LED Fiber Optic Module with** **Driver Electronics**



Key Features and Benefits

- Exceeds the brightness levels of 150-watt halogen-based fiber illuminator technology
- 3 times more energy-efficient than halogen-lamp based technology
- Consistent color temperature during dimming
- Does not emit UV or IR light
- Low heat, is cool to the touch
- Compatible with most fiber light guides having glass bundle diameters of 3 mm to 20 mm
- RoHS compliant

Applications

- Microscopy
- Assembly and Inspection
- Industrial Borescopes
- Machine Vision
- Forensics

Overview

Excelitas' LED Fiber Optic Module with driver electronics has been designed for OEM fiber optic illumination applications. The LED Fiber Optic Module couples high-intensity white light into fiber optic light guides for a range of applications including microscopy, machine vision and inspection systems. The electronic driver circuit provides linear dimming control.

The LED Fiber Optic Module, OTFI-007X Series, offers OEMs an LED-based optical solution that is energy-efficient and maintenance-free. The optical module offers a low-heat and low-voltage alternative to halogen-based and metal-halide-based fiber optic illuminators. In contrast to halogen bulbs, the color temperature of LED light remains stable when the light is dimmed, resulting in a consistent visual appearance.

The LED source is comprised of high-power white LEDs, optics to precisely couple light into fiber, and a heat sink. The module will accept fiber light guides ranging from 3 mm up to 20 mm in diameter. It is easily adaptable to a broad range of fiber light guides from different manufacturers. Please contact Excelitas for a comprehensive list of fiber light guide adapters.

Excelitas' LED Module, OTFI-0075, delivers a high-intensity, homogeneous spot from the distal end of a fiber light guide. The OTFI-0076 includes an additional optical element which further increases uniformity for applications which require a high degree of homogeneity.

The OTFI-007X series includes a DC current control electronic driver which speeds product development and reduces time-to-market. In addition to the OTFI-007X, Excelitas offers a full line of LED Fiber Optic Illuminators. Additional models include: the LED Fiber Optic Module without driver electronics, OTFI-005X series; or a complete, fully-integrated LED Fiber Optic Illuminator, Model OTFI-01X0, which includes the light module along with active cooling, dimming electronics, and power supply. Private label products are also available. Excelitas provides the level of solutions integration that you require.

www.excelitas.com

OTFI-0075 and OTFI-0076

LED Fiber Optic Module with Driver Electronics

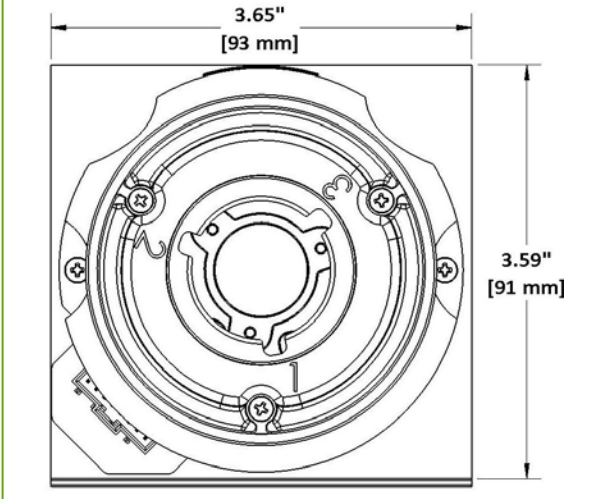
Product Specifications

Parameter	Symbol	Min.	Typ.	Max	Units	Remarks / Conditions
Optical Characteristics OTFI-0075 & OTFI-0076						
Color Temperature	CCT	5000	5300	6000	°Kelvin	Light output and color temperature may vary depending on fiber light guide characteristics.
Spectral Output	λ	400		700	nm	
Fiber Compatibility	Φ	3 (0.118")	5 (0.197")	20 (0.787")	mm inches	Accepts fiber light guides with glass bundle diameters from 3 mm – 20 mm diameter. Fiber adapters are sold separately.
Optical Characteristics OTFI-0075						
Luminous Flux		680	905		Lumens	¹ Measured at the fiber insertion plane.
Luminous Flux			650		Lumens	Calculated out of an 8 mm .66 NA fiber light guide.
Luminous Flux		350	470		Lumens	¹ Measured out of a 5 mm .66 NA fiber light guide.
LED Life			25,000		Hours	Average hours of life at 25°C (L50/L70) at 70% of initial luminous flux.
Optical Characteristics OTFI-0076						
Luminous Flux		530	710		Lumens	¹ Measured at the fiber insertion plane.
Luminous Flux			540		Lumens	Calculated out of an 8 mm .66 NA fiber light guide.
Luminous Flux		290	390		Lumens	¹ Measured out of a 5 mm .66 NA fiber light guide.
Electrical Characteristics						
Power Consumption	W	53W typical			Watts	Requires user-supplied 24V 3A DC power supply.
Environmental Characteristics						
Operating Temperature	T _o	0° to +40°			°C	On board thermal cut off to prevent overheating. Unit requires active cooling.
Storage Temperature	T _s	-20° to +65			°C	
¹ Measured using a calibrated Instrument Systems CAS 140CT spectroradiometer.						

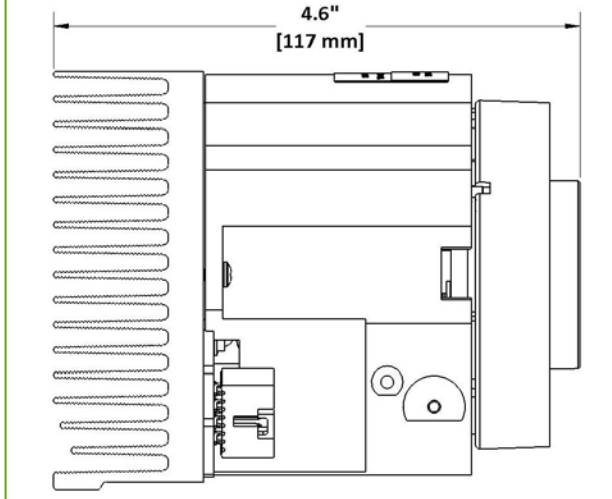
LED Fiber Optic Module with Driver Electronics

Physical Dimensions

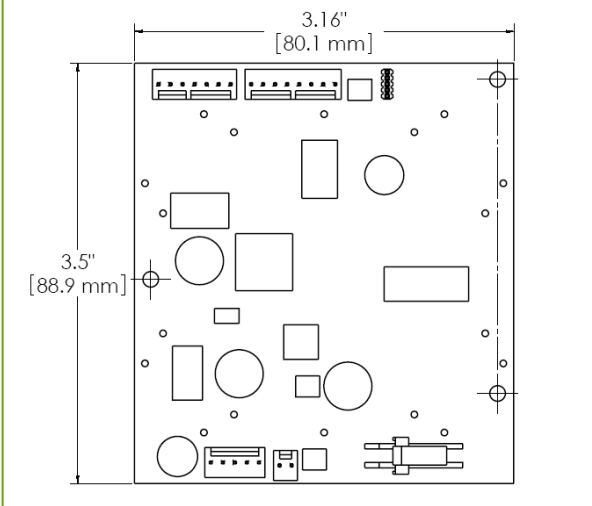
Fiber optic module front view



Fiber optic module side view



Board view



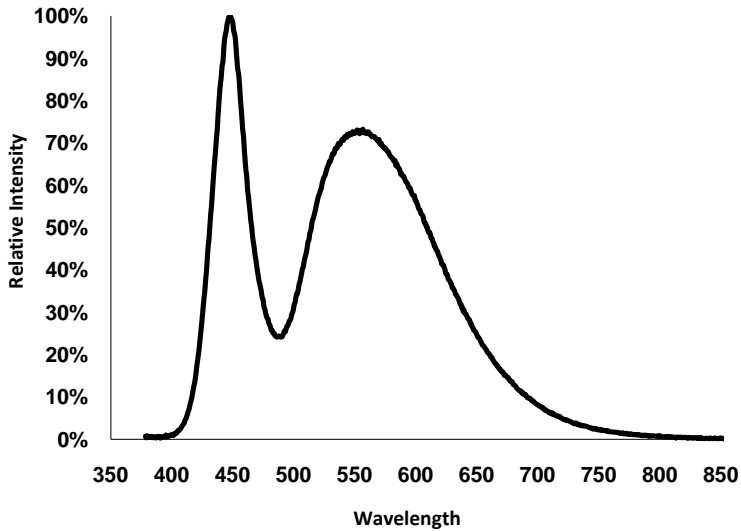
Physical Characteristics

Physical dimensions	91 mm x 93 mm x 117 mm (H x W x D) 3.59" x 3.65" x 4.6" (H x W x D)
Weight	1026 g 2.26 lbs.

OTFI-0075 and OTFI-0076

LED Fiber Optic Module with Driver Electronics

Spectral Profile



Limited warranty is 12 months from date of purchase.

US and International patents pending.

Product improvements may result in changes to specifications or features without notice.

Euro, UK and North America line cords and fiber adapter accessories sold separately.

About Excelitas Technologies

Excelitas Technologies® Corp. is a global technology leader focused on delivering innovative, high-performance, market-driven photonic solutions to meet the lighting, optronics, detection and optical technology needs of global customers. Serving a vast array of applications across biomedical, scientific, safety, security, consumer products, semiconductor, industrial manufacturing, defense and aerospace sectors, Excelitas Technologies stands committed to enabling our customers' success in their end-markets. Excelitas Technologies has approximately 6,700 employees in North America, Europe and Asia, serving customers across the world.

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