

File Name	ILED-eZI-LIT-Rev1-2	Document Revision	1-2
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Description	ILED Fiber Optic Light Kits		



## ***Fiber Optic Starlight Kits***

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**Introduction**

Our iLED eZi Fiber Optic Star Light Kits provide our Custom Installers with a complete solution for small and medium size ceilings or other areas where a starlight effect is required. The kits include everything you need - the light engine, fiber optic cable and remote control. The fiber optic cable bundle is factory cut to simplify installation – custom lengths and diameters are available for special applications.

Using fiber optics to create a starry night effect is a spectacular way to set a mood. This effect has been used in themed restaurants, amusement parks and residential home theatres and childrens rooms.

The primary effect is created by using one to three different fiber sizes, the rotating sparkle wheel in the light engine creates a twinkling effect. Three fiber sizes mixed together provide the illusion of depth. Larger diameter fibers appear closer while the smaller diameters appear as distant stars. The LED light engine will work with fibers up to 12m.



### Recommended Installation Density

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The Density or number of points per area is varies by customer – the figures given are to be used as a guideline

- Low Ceilings less than 2.5m high – 15 to 80 points per m<sup>2</sup>
- Higher Ceilings above 3m high – 10 to 60 points per m<sup>2</sup>

### Recommended Installation Distribution

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Stars are not uniform in distribution – The best effects are achieved by creating random distribution. Create a milky way area where the distribution in a specific region is more dense than the other areas – use smaller fibers in this region. To create a constellation, group a couple of larger fibers in a single hole.

### Part Numbers

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The iLED eZi Fiber Optic Light kits have been developed for ease of installation and Long Life.

- Ease Of Installation – The unit does not require special ventilation because of the low maintenance LED light engine. The Fiber Bundles have been designed for extra length – this means the unit can be mounted in an easily accessible space
- Long Life – The unit uses an LED light engine that provides a minimum of 50 000 hours of continuous operation.

### eZi-LIT-LE001 Single Head Fiber Optic Light Engine

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- 7 Colors
- 4 Button
- Voltage 220v 50Hz
- Lamp : LED
- Bulb Life 50 000h – 100 000h
- Coupling Diameter : 18mm
- Size in mm : 125d x 9w5 x 55h

Use with eZi-LIT-FOxx fibers.

Use 1 x eZi-LIT-FO001 per light engine



### eZi-LIT-LE002 Double Head Fiber Optic Light Engine

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- 7 Colors
- 4 Button
- Voltage 220v 50Hz
- Lamp : LED
- Bulb Life 50 000h – 100 000h
- Coupling Diameter : 18mm X 2
- Size in mm : 125d x 9w5 x 55h

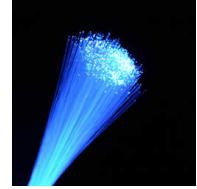
Use with eZi-LIT-FOxx fibers

Use 2 x eZi-LIT-FO001 per light engine



## eZi-LIT-FO001 Fiber Optic Bundle for 18mm Coupler

Fiber diameter in mm	Number of fibers	2m Length	4m Length	6m Length
0.75	95	30	35	30
1	16	6	5	5
1.5	8	2	4	2



- Total number of fibers = 119

Ex Stock

## eZi-LIT-FO002 Fiber Optic Bundle for 18mm Coupler – Special Order

For Custom fiber diameters and lengths, please specify the required lengths and fiber diameters. The following table can be used along with the formulae given. This formula is available on request from iLED as an XL spreadsheet.

D = 18 – this is the coupler diameter  
d = 0.5 or 1.0 or 1.5 or 2 or 2.5 or 3 – this is the diameter of the fiber required  
Number of fibers =  $3d^2 / 4D^2$

Maximum fiber length is 12m.

3 Week Delivery – Special Custom Order.

## Ordering Information

The following are stock items

- eZi-LIT-LE001 – Single Head Fiber Optic Light Engine
- eZi-LIT-LE002 – Double Head Fiber Optic Light Engine
- eZi-LIT-FO001 – Single Coupler Fiber Optic Bundle 2/4/6m
- eZi-LIT-FO002 – Single Coupler Fiber Optic Bundle. For custom lengths please use fiber calculator and place special order – Allow 3 weeks delivery. Full payment for special orders on placing of order.

## Installation

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### General

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The installation of a star field ceiling is not very hard but can be time consuming. An important item to consider before ordering the components is to verify access above the ceiling material in order to install the fibers. Before the material is ordered, determine the placement of the light engine, the number of points per square meter and the length of the fiber tail required.

The first thing to do before beginning installation of the fibers is to have a qualified electrician install and wire the light engine. In some cases, all the electrician might need to do is to wire a standard plug. As a rule, your light engine will be placed on a shelf in a cupboard, in the bulkhead, along the top of a wall or in the center of the room secured to a structural beam. The best location is in the center of the starfield to allow uniform fiber length distribution – Remember that access is important to service the light engine.

After the light engine is installed, begin installing the fibers. The following tools are needed for installation; a Dremel Tool, up to 3 sizes of drill bits ( 0.75mm, 1mm, and 1.5mm), 30 minute Epoxy or Duct Tape for fiber placement, scaffolding or ladders if required and two people to do the actual installation. If access above the ceiling or a grid type ceiling is possible, begin by laying out the fiber around the room in the pattern that the fiber will be positioned. Start at the closest star locations and work away from the illuminator. Two people are required so one can drill from below and the other, above the ceiling, can poke the fibers through the hole and epoxy the fibers in place. As the fibers are placed, the person doing the drilling should pull 75mm to 100mm of fiber through the hole, exposing them through the ceiling. This allows the ceiling to be finished, painted, etc., without worrying about covering up the fibers. For a drop down paneled ceiling remove the panels next to the area to be worked on, drill and place the fibers, then replace the panels while moving across the room. If working in drywall that is not yet installed, cut the drywall to size and do any test fitting required. Once the sheet of drywall is cut correctly, drill and place the fibers, making sure to leave adequate room around the perimeter for taping. Now lift and install the completed panel and continue on to the next one. If the ceiling has a crawl space with no means of panel removal, the same method is used with one person below drilling and one above placing fibers and securing with epoxy. As the fibers are placed, retain a few fibers in each area to use as fillers once the ceiling is completed to fill in any bare areas.

Once all of the fibers have been placed, the ceiling is finished and all are satisfied with the fiber placement and effect, clip the exposed fiber ends about 3mm to 5mm from the ceiling with a pair of snips. This will allow the ceiling to be repainted several times without losing the star field.

### Mounting

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The light engine is a solid state device and therefore very robust. A small cooling fan is incorporated in the unit to provide ventilation for the electronics. Ensure that the unit is mounted either horizontally or vertically. Do not mount the unit at an angle as this will result in ventilation fan bearing lifespan reduction.

## Information required for quoting or planning a fiber optic star ceiling

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1. Square Meterage of ceiling (required to determine number of fibers)
2. Structure of Ceiling – Dome , Split Level , Flat (required to determine length of fibers)
3. Electrical socket outlet (required for placement of light engine)
4. Control Type (remote or serial). RS485 controllable light engines will be released 1<sup>st</sup> quarter 2010.

## Control

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The light engines are supplied with an RF remote control as well as local push button control

## Remote Control

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### General

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The remote control range is about 30m dependant on installation materials (dry wall or brick and re-enforcing. The unit uses an A23 battery (not supplied with unit). Open the remote by removing the 3 screws and insert the battery ensuring the polarity is correct. Spring side of battery holder is Negative.

## Pairing Light Engine and Remote Controller

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Each Light Engine is paired with a remote control at the factory – to change the remote control pairing or to have more than 1 light engine driven from a single remote control follow the steps below

1. Switch off Light Engine using the rear power switch. Put switch in the O position. Leave off for 30 seconds.
2. Press and hold the button next to the rear power switch control. Switch the rear power switch to I while holding the button.
3. The light engine will beep for 2 seconds. Release the button.
4. Press the A button on the required remote control. Release the A button. If the light engine beeps twice then the remote control was already the paired remote. If the light engine beeps once, the new remote control has now been paired.

## Local Control

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### General

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Each light engine has 2 pushbuttons located on the rear of the unit. The top pushbutton is called A and the bottom B

## Manual Control

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- Button A
  - Press to cycle between color change Fade and color change Step.
- Button B
  - Press to cycle between color change On and color change Freeze.