

# Operation Manual

## FL150

### FIBER OPTIC ILLUMINATOR

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#### Introduction

The FL150 is a 150 Watt quartz halogen fiber optic illuminator designed for general microscopy use. When used with specialty fiber optic cables the FL150 illuminator can also be used in a variety of laboratory illumination applications.

#### Initial Setup

Remove the FL150 Illuminator from the carton and retain the manual and any additional documents.

Remove the fiber optic cable from the carton if the illuminator was purchased as part of a Fiber Optic system. If the system includes an EEG2823, EEG3922 or BG2820 self supporting gooseneck fiber optic cable then also remove the LH759 lens(es) from the carton. The EEG2823 and EEG3922 fiber optic systems include two(2) LH759 lenses while the BG2820 system includes one(1) LH759 lens.

Loosen the fiber optic nosepiece thumbscrew.

Insert the fiber optic tip into the illuminator nosepiece. If the fiber optic is either an EEG2823, EEG3922 or BG2820 self supporting gooseneck style cable then the tip of the cable will have a small groove in the tip. The groove in the tip will firmly secure the fiber optic cable in the nosepiece and prevent rotation of the cable. Align the groove in the tip with the nosepiece thumbscrew. Ringlight fiber optic cables do not have a groove and can be installed without special alignment.

Tighten the thumbscrew by hand to make a secure connection to the fiber optic. Use of pliers or other tools is not recommended. Use of tools may result in damage to the illuminator or the fiber optic cable.

Insert the AC power cord into the power entry at the rear of the illuminator. Use only approved power cord supplied with the illuminator.

Insert the AC power cord into the proper AC mains outlet for the illuminator voltage ordered. If any doubt exists consult the labels on the rear and underside of the illuminator before connecting the illuminator to AC power.

#### Fiber Optic Connection

The FL150 illuminator uses a B-type fiber optic nosepiece with a 0.590 in. (15mm) ID. B-Type nosepieces will accept self-supporting goosenecks (EEG2823, EEG3922, BG2820) and ringlight (A3739) fiber optics without the need for an adapter. Fiber optics smaller than the 0.590 in. (15mm) ID will require the use of B-type

## Operation

All the FL150 series illuminators are equipped with a front panel manual solid state intensity control.

Press the ON(1)/OFF(0) rocker switch on the front panel to ON(1). The illuminator will light and is ready for service. The illuminator intensity is controlled by the rotary control located on the front panel of the illuminator. The 0 position (when control is turned fully counter-clockwise) corresponds to the lowest illuminator intensity. The 100 position (when control is turned fully clockwise) corresponds to the highest illuminator intensity.

NOTE: Continuous operation of the illuminator at the highest intensity level will yield rated lamp life.

Operating the illuminator at reduced intensity can result in significantly extended lamp life.



### WARNING

Risk of electrical shock. Remove power plug before lamp replacement and wait for hot lamp to cool.



## Lamp Replacement

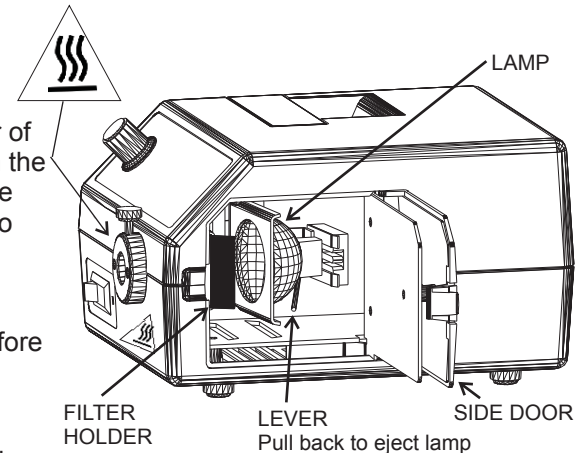
1. Turn the illuminator intensity control fully counterclockwise (the 0 position) and run the illuminator with the fan for several minutes.

Wait until the nosepiece is cool to the touch.

2. Press the ON(1)/OFF(0) rocker switch to the OFF(0) position.
3. Remove the AC power cord from the AC power receptacle.
4. Open the lamp access door by depressing the small clip toward the rear of the illuminator with your thumb or finger. Once the clip disengages from the illuminator housing the lamp access will spring open several inches. The lamp access door will open slightly more than 90° to allow easy access to the lamp and lamp socket.

Do not pry open the door with a tool. This may result in damage to the illuminator housing or the lamp access door.

5. Check the lamp assembly to verify that the lamp and socket are cool before proceeding. Caution: The lamp runs at very high temperatures and contact with a hot lamp may result in severe injury.
6. Pull the lamp eject lever to remove the lamp from the socket.
7. Lift and remove the lamp from the lamp socket by grasping the rear of the lamp adjacent to the lamp power pins.
8. power pins.
9. Remove the lamp from the socket.
10. Discard the old lamp.  
Insert the replacement lamp into the lamp socket by aligning the lamp power pins with the slots in the lamp socket. CAUTION: Do not touch the interior of the lamp reflector, the lamp envelope or the lamp pins with your fingers. Touching the interior of the lamp reflector, the lamp envelope or the lamp pins will result in significant shortening of the lamp life. Handle the lamp only by the exterior of the reflector or the area adjacent to the pins.
11. adjacent to the pins
12. Push the lamp gently into the socket to seat the lamp in the socket and lampholder. Rotate the lamp access door toward the illuminator housing and gently press the lamp access door to cause the door clip to seat into the housing and secure the door.
13. Reattach AC line cord and the illuminator is ready for service.



### WARNING

Replace the fuse with the correctly rated fuse as listed on the label on the back of the illuminator. Use of an improper fuse can create a



## Filter Option:

FL150 illuminators ordered with the filter option are shipped with the IR filter and the filter holder installed at the factory. The filter holder is located behind the illuminator nosepiece, in front of the lamp. (see diagram on page 2)

To use color filters (not included), place color filter into the filter holder behind the IR filter such that the IR filter is located between the lamp and the color filter.

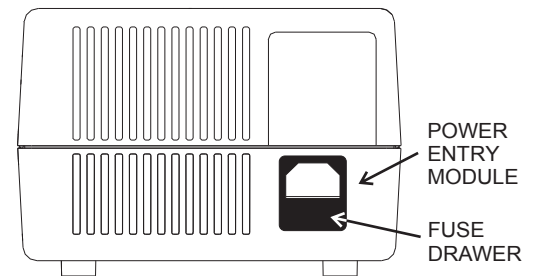
WARNING: Do not use color filters without an IR filter in place. Filters become HOT with use! Allow sufficient time (10-15 minutes) for the filters to cool before handling.

## Fuse Replacement

1. Press the ON(1)/OFF(0) switch to the OFF(0) position.
2. Remove the AC line cord from the AC power receptacle.
3. Remove the AC line cord from the power entry module at the rear of the illuminator. The fuse drawer is part of the power entry module. The drawer is located directly beneath where the AC line cord plugs in.
4. For 115 VAC illuminators : Pull out the fuse drawer. The AC power fuse is located in the receptacle with metal clips at both ends of the fuse.
5. Remove the blown fuse and discard. The second fuse is the spare.
6. Place the replacement fuse into the metal clips in the fuse drawer. The fuse will work in either orientation.
7. Push the fuse drawer into the illuminator until it "clicks" into position.
8. For 230 VAC illuminators : Push down the center latch until it locks in the down position. Remove the fuse drawer. Two fuses are required.
9. Remove the blown fuse(s) from the drawer and discard.
10. Place the replacement fuse(s) into the fuse holder by inserting either end of the fuse into the fuse holder.
11. Push the fuse drawer until it "clicks" into position.
12. Attach the AC line cord to power entry module at the rear of the illuminator. The illuminator is now ready for service.

### Replacement Parts

Part No.	Description
02-015850-0000	Lamp, EKE, 21V, 150 Watt
02-015852-0000	Lamp, EJV, 21V, 150 Watt
02-015855-0000	Lamp, EJA, 21 V, 150 Watt
02-015320-1300	Fuse, 3A, 5 x 20, 250 V, slow blow (115 VAC)
02-015320-3200	Fuse, 2A, 5 x 20, 250 V, slow blow(230 VAC)



Only above parts are replaceable. Return illuminator to factory for warranty service.  
Attempts to replace other parts voids warranty.

### Performance Statement

Dolan-Jenner Industries, Inc. (DJI) recognizes that its illuminator products may be used under an almost unlimited variety of conditions. As such, we are prepared to assist the customer in the selection and application of any of these products. This includes application engineering, sample testing and other means as determined by DJI.

Where DJI has made specific recommendations for its products, systems, or detection techniques (based on complete and detailed information furnished by the customer) we will extend every effort to assure that the customer is satisfied with the performance of our products. Continual development and improvement of DJI products may require changes in details that do not coincide with descriptions or illustrations shown. All fiber optic cable diameters are nominal.

### Three Year Warranty on Light Sources

Dolan-Jenner Industries, Inc. (DJI) warrants its products to be free from defective material and workmanship. Any light source or parts thereof which are determined by DJI to be defective within 3 years (average product life cycle) from shipment date will be replaced or repaired at our option. This policy is effective Nov. 1, 1993 and is not retroactive. All fiber optics are warranted for one year. This warranty specifically excludes both incandescent and quartz-halogen lamps, and optical filters.

Any products which, in our opinion, have been subjected to misuse, incorrect wiring, or where installation procedures are not in accordance with the instruction manual, are excluded from this warranty. Nor does this warranty extend to products on which repairs or alterations have been made outside the factory, or on which the identification or serial number has been altered or to accessories not of our manufacture.

Our obligation with respect to products or parts covered by this warranty shall be limited to repair or replacement, F.O.B., Boxborough, Massachusetts. In no event shall DJI be held liable for consequential or special damages, or for transportation, installation, adjustment, or other expenses which may arise in connection with such products or parts. This warranty is in lieu of all other statements or warranties or guarantees, written or implied, by DJI or its authorized representatives.

Important: Please contact factory for a return authorization number prior to shipping merchandise to factory.

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Technical Data

Lamp	150 W Quartz halogen, 21V (EKE, EJV or EJA) as ordered
Voltages	115/60, 230/50 (Set at factory)
Lamp Life	200-10,000 Hours depending on intensity
Fuse	115 VAC: 3 Amp, 250V, 3A slow blow, 5 x 20 mm 230 VAC: 2 Amp, 250V, 2A slow blow, 5 x 20 mm
Color Temperature	3100-3400 degrees Kelvin depending on lamp used
Safety Approvals	115 VAC - UL & C-UL 230 VAC-CE
Dimensions	6 in. L x 8.5 in. W x 5.3 in. H 15.3 cm L x 21.6 cm W x 13.5 cm H
Weight	7.75 lbs. (3.6 kg.)
Max. Housing Temp.	15°C above ambient

Environmental Conditions Use Specifications

Type of Use	Indoor at max. altitude of 2,000 M
Ambient Temperature	+5°C to +40°C
Relative Humidity	80% maximum up to +31° C (non-condensing) decreasing linearly to 50% relative humidity @ +40° C
Installation Category	II
Pollution Degree	2

NOTICE: If the equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired.

NOTICE: Cleaning of the equipment is not recommended. If the equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired.

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