



## ***VisualuxLED***

USER MANUAL  
LED LIGHT SOURCE MODEL GMF-LS02

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# INTRODUCTION

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The VISUALUX LED light source is intended for use in office-based medical applications, such as ENT and clinical areas.

It has a LED (Light Emitting Diode) lighting module produces cold, deep, and white light. Its enhancement of brightness and colors makes it suitable for use in many types of procedures.

The purpose of this manual is to explain the function and operation of the light source.

Before turning the equipment on for the first time, please read the entire manual and pay special attention to all the safety measures in order to prevent any damage that may occur either to the user or the patient.



This symbol shall be used in this manual to indicate information that includes warnings or important precautions.

Please, read the manual thoroughly before operating the equipment.

Should you have any doubt regarding the contents of the manual herein or the equipment operation and safety, please contact your local distributor or Gulf Fiberoptics.

## Responsible Firm:



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Gulf Fiberoptics VISUALUX LED light source is CE approved, complying with European Council Directive 93/42/CEE related to medical equipment. The MDD equipment classification is I.

# COMPONENTS

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The VISUALUX LED light source includes the following components. It is recommended to identify and check their existence before proceeding with the installation.

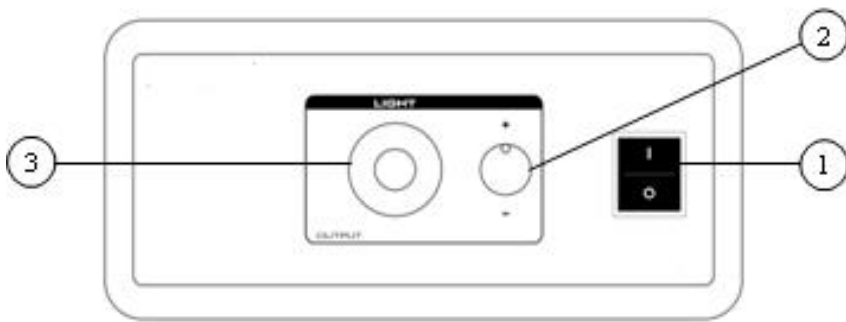
- Main Unit
- Power Supply Cable
- User Manual

# DESCRIPTION

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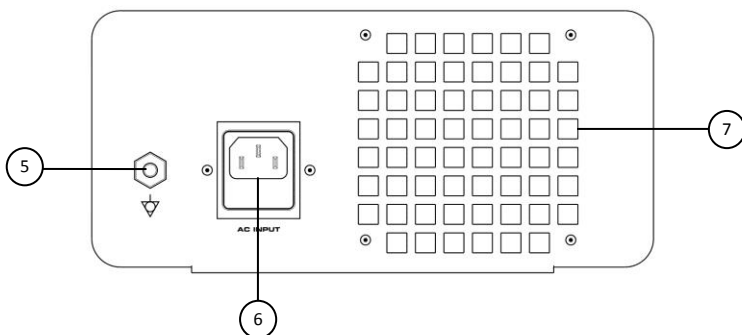
## FRONT PANEL

MODEL GMF-LS02



- 1 On/Off switch
- 2 Light Intensity Control (Dimmer)
- 3 Fiber optic cable connector

## REAR PANEL



- 5 Earth connection
- 6 Power supply cable connector with fuse holder
- 7 Ventilation grid

## TECHNICAL SPECIFICATIONS

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POWER SUPPLY VOLTAGE	90 - 240 V
N° OF PHASES	1 (single-phase)
FREQUENCY	50 - 60 Hz
CLASS	I
TYPE	B
PROTECTION LEVEL AGAINST	
WATER ENTRANCE	IPX0
POWER CONSUMPTION	110W
FUSE	T3AL250V
COLOR TEMPERATURE	6000°K Approximate
LED SYSTEM SERVICE LIFE	50.000 Hours Approximate
REFRIGERATION	Forced air
OVER TEMPERATURE PROTECTION	Automatic LED system power-off
DIMMER	Electronic
SERVICE CONDITIONS	50 – 104 °F (10 - 40 °C) 35 - 75 % relative humidity 700 - 1060 HPa
STORAGE AND TRANSPORTATION	-22- 113 °F (-30 - 45 °C)
CONDITIONS	10 - 95 % relative humidity 500 - 1060 HPa
WEIGHT	5.86 lbs, 2.66 Kg
DIMENSIONS	8.07 x 11.22 x 4.13 inches
(width, depth, height)	205 x 285 x 105mm

## LABELS

The following label is located either on the rear or the bottom of the VISUALUX LED light source. It contains technical data, as well as the serial number of the device. Please refer to this label when ordering replacement parts or requesting service.

### VISUALUX LED

Serial No. **LED110RX110110006**

VOLTAGE: 90 – 240 V -  
FREQUENCY: 50 – 60 Hz  
POWER: 110 VA  
FUSE: T3AL250V -



MANUFACTURED FOR:  
GULF MEDICAL FIBEROPTICS, INC.  
OLDSMAR, FLORIDA U.S.A.

## ICON DESCRIPTION



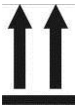
Attention! Read the related documentation



Alternate current



Protect against water



Up



Fragile



CE Mark



Manufacturer Identification (Name, Address)



B Type

# INSTALLATION

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Experienced or expert personnel are not required to install the VISUALUX LED.

Once the installation is complete, please continue with the procedures detailed in the Inspection and Operation section.



Thoroughly follow the instructions included in this section.

1. Unpack the equipment carefully.
2. Place the VISUALUX LED on a solid, flat surface.
3. Connect the fiber optic cable to the corresponding connector of the individual adapter, depending on the fiber optic to be used (Storz, ACMI, Wolf). To avoid damage to the light source or the fiber optic cable, the proper adapter must be selected to match the fiber optic connector.



Once the VISUALUX LED is turned on, ensure the cooling fan is functioning.

If the cooling fan is not operating, turn the equipment off immediately to avoid failures in the LED system as a result of high temperature.

The VISUALUX LED shall only be used in places with electrical installations that meet the local regulations in effect.

It shall always be connected to the grounding of the medical room or endoscopy tower through a ground cable.

The VISUALUX LED shall be connected to the voltage line through the power supply cable provided.

The power supply shall only be provided with a protected plug and the adequate ground connection.

To avoid the risk of vision damage, do not look directly into the light source connector port while the unit is running.

# INSPECTION AND OPERATION

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## INSPECTION

Once installation is complete and before the unit is powered on, please perform the following check list:

- Verify that the electrical network has its grounding connection in perfect conditions and that it makes perfect contact with the equipment.
- Check that the fuse holder has a fuse installed and that it is the correct one (T3AL250V).
- Check that the ventilation grid is completely free, without obstruction.
- Ensure an adequate air flow area around the unit.
- Verify that there are no gas or liquid sources near the equipment that may damage it.



All connections shall be made before turning the equipment on.

The VISUALUX LED shall only be used in places with electrical installations that meet all local regulations in effect.

If a problem is detected prior to powering on the unit, please contact the technical service department of your local authorized distributor.

## OPERATION

This section thoroughly describes the equipment start-up and functioning verification procedure. It is recommended to perform this procedure after installing the equipment and during maintenance inspections.



The equipment shall only be operated by qualified personnel.

1. Connect the power supply cable to the equipment and the electrical network.
2. Turn the VISUALUX LED on by pressing the general on/off switch to the “1” position.
3. Ensure the cooling fan is operating.
4. Turn the LED system on by turning the light intensity control (dimmer) clockwise.
5. Use this control to regulate the light intensity.



The VISUALUX LED light source has an over-temperature protection. The LED module will turn off if it experiences high internal temperatures.

5. When not in use, turn the VISUALUX LED off in order to maximize the LED system lifetime and conserve energy.

## MAINTENANCE

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In order to maintain optimum operation of the VISUALUX LED, it is recommended the following procedures are performed:

- Periodic cleaning of all exterior components, including the ventilation grid.
- Inspection of electrical connections.
- Annual technical inspection of the equipment.

To perform any required service, contact your local authorized distributor.

All technical service work, repair or modification should be noted on the Maintenance Card of this manual indicating: work performed, date, name and signature of the person in charge.

## CLEANING

Before cleaning the VISUALUX LED, disconnect the power supply cable from the electrical network.

### External Surfaces

Clean the external surface of the equipment using a piece of cotton or cloth moistened with mild detergent or soap. Use only adequate products for the external cleaning of electrical equipments, prepared in accordance with the manufacturer's indications.



Perform the cleaning with special care, avoiding water or humidity access to the equipment.

Do not use flammable products, especially alcohol when the VISUALUX LED is hot.

Do not turn the light source on until one hour (1) has passed from the cleaning, to eliminate the chance for damage.



It is recommended to clean the exterior surface of the device every 15 days.

## ELECTRICAL CONNECTIONS

Constantly check the condition of all components and their aging process.

Verify there are no:

- Faulty, broken or cut cables.
- Faulty connection between the cable and the plug.
- Oxide corrosion in connection pins.

## FUSE REPLACEMENT

- 1 Disconnect the power supply cable from the electrical network and the equipment.
- 2 Under the power supply cable connector there is a small rectangular plastic holder where the fuses are located. Using a screwdriver and with a slight pressure remove the lid to replace the damaged fuse.
- 3 Remove the fuse and replace it with a new fuse (T3AL250V) located inside the same plastic holder. Obtain a spare fuse to minimize potential out of service time.



To avoid shock, injury, or damage to the VISUALUX LED, use ONLY fuses with the same specified ratings (T3AL250V)

- 4 Place the fuse lid back pushing it until a “click” is heard.
- 5 Connect the power supply cable.

# TROUBLESHOOTING

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The following table indicates the most common problems and their quick solutions. Please consult this table for any difficulty you may encounter.

PROBLEM	PROBABLE CAUSE	ACTION
The equipment does not turn on	It is not connected to an active electrical source	Connect the power supply cable to the electrical source
	The power supply cable is broken or cut	Replace the power supply cable
	The plug is in bad condition	Change the plug
	Fuse broken or burnt	Replace the fuse
The green pilot light from the on/off switch turns on but the LED system does not	Exhausted LED system	Contact your distributor
	Over-temperature LED system protection activated	Clean and clear the lateral ventilation grids. Check if the fan is running. Turn the equipment off immediately and contact your distributor
	Internal fuse burnt or defective board	Contact your distributor
Light intensity is not the correct one	Dimmer in minimum intensity	Turn the dimmer clockwise to increase the light intensity
	Defective LED system	Contact you distributor
High temperature	Lateral ventilation grids are obstructed	Clear the lateral ventilation grids
	Fan is not working	Turn the equipment off immediately and contact your distributor

If the problem cannot be solved, please contact your local authorized distributor to request technical service.

## WARNINGS

It is important to read this manual thoroughly before using the VISUALUX LED.

Gulf Fiberoptics shall not be liable for the damages that may occur if the equipment is not used according to these instructions and following the criteria mentioned herein below:

- Do not install the equipment near heating sources such as stoves.
- Install the equipment on a firm and horizontal surface, in a well ventilated area.
- Avoid exposing the equipment and fittings directly to sunlight, dust, humidity, vibrations or excessive impacts.
- Do not use around inflammable anesthetic mixed with air, oxygen, or nitrous oxide.

- Do not use volatile substances (benzine, thinner or solvents in general) to clean the equipment since it may cause damage. It is recommended to use a soft wet cloth soaked in neutral soap or any specific product to clean electronic equipment cases.
- Do not introduce objects in the holes or rest any containers with liquid on the equipment.
- Prevent the power supply cable from being walked/rolled over or placed under any piece of furniture.
- Do not use the equipment when there are electrical storms.
- Always unplug the equipment when it is not being used.
- The VISUALUX LED is grounded through a conductor of the power supply cable. This essential grounding is provided for a safe operation of the equipment.
- In case of interference with other electro medical or electrical equipment, widen the distance between the VISUALUX LED and the other device in order to minimize these effects.
- Do not open the equipment. Maintenance and repairs shall be made by Gulf Fiberoptics. Gulf Fiberoptics shall not be liable for the consequences of maintenance or repairs made by unauthorized personnel.
- This manual of instructions shall be kept together with the equipment for future consultations. Should the equipment be sold or donated, the manual shall go with it.

If as a consequence of:

- Incorrect use of the equipment
- Under utilization of this manual
- Poor care and maintenance of the equipment or
- Repair and manipulation by unauthorized personnel

...any material or personal damage caused to third parties, Gulf Fiberoptics and the distributor of the equipment, shall not assume any responsibility for such damages.

MAINTENANCE CARD

Work Performed	Responsible Person	Date	Signature

This card shall only be completed by the authorized person from the company responsible for the maintenance, repair and modification of the device.

Frequent and timely updates to this service table are recommended.

## TECHNICAL SERVICE

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VISUALUX LED light sources shall be exclusively repaired and/or maintained in authorized Gulf Fiberoptics technical facilities. Gulf Fiberoptics recommends using the following procedures to speed up the repair service and replacement of the guaranteed products.

- 1 Contact the technical service department of your local distributor or Gulf Fiberoptics
- 2 Give detailed information of the problem.
- 3 If the problem cannot be solved by troubleshooting, the product must be shipped to your local authorized distributor for service.

The following product information shall be attached:

- Owner's name.
- Owner's address.
- Contact name and phone number.
- Product's serial number.
- Description of the problem.

The VISUALUX LED shall be sent in its original packaging so that it is not damaged during transportation. Gulf Fiberoptics shall not be liable for damages that may occur during transportation, caused by deficient packaging.

## WARRANTY

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Gulf Fiberoptics states that the VISUALUX LED has complied with the required Quality Control verification and has no manufacturing defects. This guarantees the appropriate functioning under adequate use in agreement with the indications of this manual. The warranty period is for one (1) year as from the date of purchase invoice.

Gulf Fiberoptics shall not be liable for any damage caused to/by the VISUALUX LED due to incorrect use, negligence, cleaning or incorrect storage. Any repairs made by personnel not authorized by Gulf Fiberoptics will void this warranty. The described warranty is exclusively valid for the original buyer.

The following parts are excluded from the warranty:

- Damages resulting from connections to inadequate power supplies.

If the VISUALUX LED requires service outside of the warranty period, all shipment from and to Gulf Fiberoptics or its authorized technical service facilities is the sole responsibility of the client.

## RIGHTS

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All the rights arising from the manual herein, especially its reproduction, publishing and translation, are reserved. No part of this manual shall be reproduced by any means (photocopy, microfilm or other methods) without the previous written authorization by Gulf Fiberoptics. No part of this manual shall be reproduced, multiplied or published through electronic data processing.

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## NOTES

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