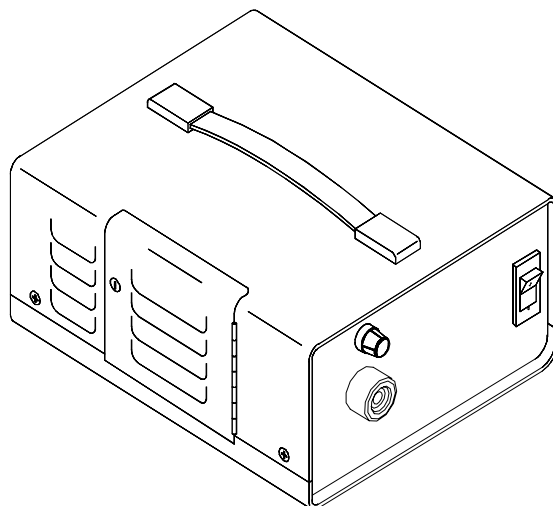


OPERATION MANUAL

MODEL 125030A

HIGH INTENSITY XENON LIGHT SOURCE



ITI | INSTRUMENT
TECHNOLOGY, INC.

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INTRODUCTION

Thank you for selecting Instrument Technology, Inc. (ITI) to fulfill your remote viewing needs.

Since 1967, ITI has been the Leader in Remote Viewing. The only company of its type doing all its manufacturing in the United States, ITI consistently provides cutting edge technology to customers world-wide.

ITI specializes in the design, development and manufacture of Remote Viewing Instruments (RVI) and systems including Borescopes, Fiberscopes and Videoscopes.

ITI offers over 2,000 standard products as well as products custom designed for unique applications. No matter which ITI product is used, our customers find they are able to observe hostile and difficult to reach environments never dreamed possible before. Though ITI products can solve many remote viewing problems, it is always best to select the proper instrument for any given application. Only then can success be assured.

Your satisfaction is guaranteed with all products purchased from Instrument Technology, Inc. Feel free to contact ITI or your local ITI Representative with any questions.

WARRANTY

Instrument Technology, Inc. warrants that the equipment is fit for the purposes described herein for a period of one year after the date of shipment when used in accordance with the directions for use, and agrees to repair or replace any such defective component part at no cost to the customer.

There are no other express or implied warranties. ITI's sole obligation and purchaser's exclusive remedy for breach of any warranty shall be limited to repair or replacement of the product at the option of ITI. This warranty does not cover, and ITI will not be liable for any resulting direct, proximate, incidental or consequential damages. This warranty does not apply if the product has been subject to misuse, negligence, accident or improper application, nor shall ITI be responsible for work done or repairs made by others.

PRODUCT SPECIFICATIONS

Lamp Type	Xenon Ceramic Short Arc Lamp
Lamp Power	300 Watt
Lamp Operating Voltage	14 Volts
Lamp Operating Current	21 Amps
Lamp Color Temperature	6,000°K
Lamp Life	500 Hours Minimum
Electrical Voltage/Current	110VAC/ 5.5 Amps 230VAC/ 3 Amps
Input Line Frequency	50/60 Hz ±5%
Circuit Breaker	Slow Blow 6 Amps
Weight	15.2 Lbs.
Dimensions	6.2"H x 10"W x 12"D

Agency Compliance

This product complies with UL 2601 and IEC 601-1 CE Mark

ALLOWABLE AMBIENT CONDITIONS

Operating Temperature	43 to 86° F (6 to 30° C)
Storage Temperature	-40 to 122° F (-40 to 50° C)
Humidity	30 to 85% (Relative)

IMPORTANT

READ THIS MANUAL BEFORE ATTEMPTING TO OPERATE LIGHT SOURCE.

IMPROPER SET-UP OR USE OF LIGHT SOURCE MAY CAUSE DAMAGE NOT COVERED IN WARRANTY.

OPERATING INSTRUCTIONS

OVERVIEW OF APPLICATION

Model 125030A is a Light Source intended to provide illumination for Borescope applications. It provides uniform or "hot spot" free illumination.

The unit uses a compact ceramic xenon lamp, enabling the Light Source to achieve high light output due to the lamp's light collection efficiency.

Switched on, the unit illuminates immediately to full output with a stable 6,000°K color temperature (daylight) illumination. Ultraviolet and Infrared filtering attenuates radiation to the fiber optic cable.

The Light Source incorporates a graduated shutter to attenuate light intensity from 0 to 100%. The light intensity is adjusted by turning the Illumination Control knob located on the front panel. The Light Source provides an ACMI/ ITI Light Guide connection.

The Light Source also has a lamp life indicator on the front of lamp module which indicates total hours of elapsed lamp life.

The lamp can be changed quickly by accessing the lamp module through the side door.

The light source module is designed to meet multinational regulatory requirements and has multi-input voltage selection capability to accommodate various line voltages from 85-265VAC.

RECEIVING

Inspect shipping container for damage, always in the presence of the carrier. Noted damage should be reported to the carrier's agent. Remove all packing material from the unit and carefully inspect for visual damage which may have been caused by shipping.

SYSTEM INSPECTION

The Light Source must be inspected before each use according to the procedure below. Should an irregularity be found, do not use Light Source. Consult the Trouble Shooting section in this manual, or contact ITI for technical assistance.

1. Visually inspect power cord, plug and light guide cable for evidence of wear, damage or fraying.
2. Be sure that the light guide cable connector is clean and dry before plugging it into Light Source receptacle.
3. When requesting information concerning the system always furnish serial number.

STORAGE

The Light Source is delivered in protective packaging. Avoid placing the unit in a dusty or dirty environment. Dirt in the air intake shortens the unit's life.

For storage, wind power cord around unit and place in original packaging. Power cord should never be kinked.

CAUTIONS & WARNINGS

The following cautions apply to the use, care and maintenance of the Xenon Light Source.

1. To enhance safety of the operator, this Operation Manual should be read and understood in its entirety by a qualified operator before using the Xenon Light Source.
2. Do not use unit near flammable gases due to danger of possible explosion.
3. High energy radiated light guided through endoscopes or fiber optics may produce high temperatures in front of the light outlet and at the tip of the instrument. Verify that the tip of the instrument is not in excess of 106°F (41°C) prior to use.
4. Do not look directly at the arc lamp when unit is on. The lamp produces high intensity visual and ultraviolet radiation that may cause burns to skin or eyes.
5. Do not block air vents. Adequate cooling is required for proper operation of the unit. Do not operate unit in confined areas subject to high ambient temperatures.
6. Provide a minimum of 6" free air space on the sides and the rear of the unit.
7. Grounding reliability is achieved only when connected to a properly grounded receptacle. Inspect electrical plug and cord routinely. Do not use if damage is discovered.
8. The lamp in this unit is filled with high pressure xenon gas. Do not subject lamp to mechanical forces or rough handling. Explosion may result. Refer all servicing to **Instrument Technology, Inc.**
9. Wear face shield or protective safety eye glasses when handling lamp.
10. Do not touch lamp window **at any time**.
11. Electrical shock is a hazard. Always unplug Light Source prior to opening side door. **Do not remove** the top cover. Refer all servicing to qualified **Instrument Technology, Inc.** personnel.
12. Avoid contact with lamp until it is cool. Lamp reaches very high temperatures which can cause serious burns.
13. Side door of unit must remain closed during unit operation. An interlock switch will not allow the Light Source to operate if the door opens during operation.
14. Disconnect the power cord before attempting any service to light source. Refer all servicing to **Instrument Technology, Inc.** personnel.

LIGHT SOURCE OPERATION

1. Verify that the air vents are not blocked and 6" (130mm) minimum space maintained.
2. Insert clean, dry, light guide cable into receptacle.
3. Plug Light Source into a properly grounded electrical power outlet.
4. To turn the light source on, press power switch located on front panel to "ON" position. Power switch and lamp will illuminate and fan starts. Unit needs no warm-up time before use.
5. To turn off, turn Illumination Control knob fully counter-clockwise to the lowest setting and press Power Switch to "OFF" position.
6. Disconnect power cord from the outlet, and put Light Source into its packaging to prevent dust build-up if the Light Source is not going to be used for a long period.

LIGHT OUTPUT ADJUSTMENT

1. The Xenon Light Source allows adjustment of the light output from 0 to 100%.
2. To obtain desired light output, rotate Illumination Control knob on the front panel clockwise or counter-clockwise.
3. When finished using the Light Source, turn Illumination Control knob fully counter-clockwise to the lowest setting and press Power Switch to "OFF" position.

LAMP REPLACEMENT

THE FOLLOWING SERVICE AND MAINTENANCE PROCEDURES SHOULD ONLY BE PERFORMED BY SERVICE PERSONNEL AUTHORIZED BY *INSTRUMENT TECHNOLOGY, INC.*

The Side Door of the Light Source should only be opened for Lamp Module replacement.

Observe all warnings and cautions provided in this Operation Manual prior to beginning any service procedures.

Refer all electrical and/or mechanical problems to ITI's Service Department.

WARNING

THE XENON LAMP IS UNDER EXTREMELY HIGH PRESSURE - GLOVES AND FULL-FACE SHIELD MUST BE WORN WHILE HANDLING THE LAMP.

DO NOT SUBJECT THE LAMP TO MECHANICAL FORCES OR ROUGH HANDLING THAT COULD FRACTURE THE LAMP.

DANGER

DISCONNECT THE MAIN POWER CORD BEFORE ATTEMPTING ANY SERVICE TO LAMP OR LAMP CONNECTIONS.

LAMP HOLDER REPLACEMENT

NOTE: Use gloves and face shield when replacing lamp holder to minimize injury.

1. Turn Power Switch OFF.
2. Unplug unit. Wait for lamp to cool before proceeding (minimum 10 minutes).
3. Unlatch side door with slotted screw driver. Turn door latch counter-clockwise to open.
4. Remove Lamp Holder Assembly by grasping the handles on Lamp Holder and pulling out horizontally.
5. To install new Lamp Holder, align new Lamp Holder receptacles with mating pins on the Housing Bracket (inside unit) and push horizontally to engage (see Figures 1 & 2). Install with lamp window facing front panel.
6. Ensure that Lamp Holder is fully engaged in the Housing Bracket.
7. After installing Lamp Holder, close door and fasten door latch by turning the door latch clockwise.

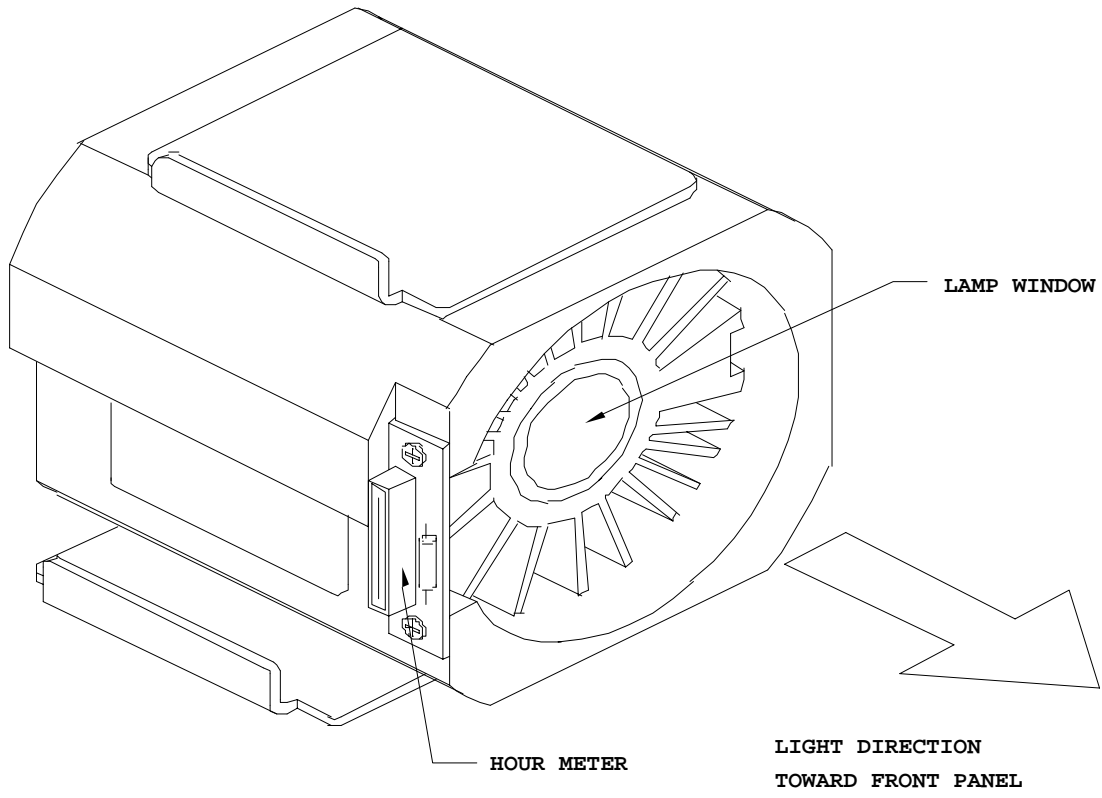


Fig 1

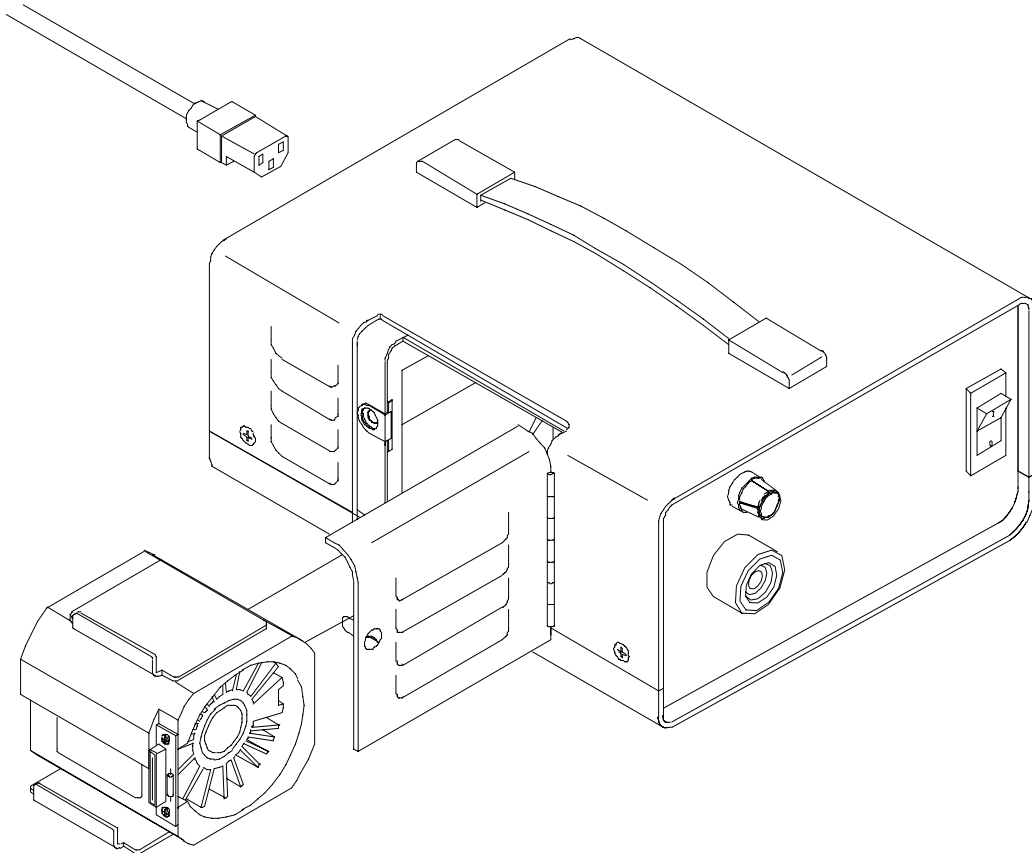


Fig 2

INPUT VOLTAGE SELECTION

DANGER: Disconnect the main power cord before performing any voltage selection operation.

CAUTION: Operation at any input AC voltage other than that selected and indicated on the input module will cause damage to the light source. Make sure to check local AC Power source voltage and set the light Source input module to match.

Local AC Voltage Range	Light Source Setting
85-135VAC @ 50 or 60 Hz	120V
180-265VAC @ 50 or 60 Hz	230V

1. Ensure the light source is turned off and unplugged from the AC line.
2. Locate the selector switch mounted on the rear panel of the light source.
3. Note the indicator mark in the vertical position on the switch. Using a flat blade screwdriver rotate the switch to align the desired operating voltage with the indicator mark.
4. Plug the power cord into an outlet within the voltage range you have selected from the above table and operate the unit.

CIRCUIT BREAKER

1. The unit's Power Switch\Circuit Breaker is on the front panel. It is rated for 6 Amps.
2. The Circuit Breaker prevents damage from an over-current condition. Power is cut off automatically if too much current is drawn while the Light Source in on.
3. Turn Power Switch "OFF" and then "ON" to reset Circuit Breaker.
4. Plug the line cord into an outlet within the voltage range you have selected from the above table and operate the unit.

NOTE: If the Power Switch trips again after being reset, turn off unit and unplug power cord. Contact ITI's Service Department.

INSTRUMENT CARE

CAUTION: Light Source must be unplugged and cool prior to any maintenance or cleaning.

The Light Source housing must be kept free of dust and any accumulation of dirt around the air intake and outflow vents.

Depending on the contamination of the environment, the frequency of cleaning may vary. If the operational area is frequently dusty or contains airborne particles then it is recommended that the system cleaning be with every change of the lamp. If the operating environment is clean and dust free then the system may be cleaned every 18 months.

The interior of the unit may be vacuumed or blown out using an air hose as required.

The exterior of the unit may be cleaned by wiping it with a dampened (not dripping) cloth and a mild detergent or an all purpose cleaner.

Unit is best stored in the protective packaging in which it arrives. Store the power cord with the Light Source. Never crush or sharply bend the power cord.

All optical components should be regularly cleaned. Electrical connections should periodically be checked for both tightness and cleanliness.

TROUBLE SHOOTING

SYMPTOM	POSSIBLE SOLUTION
Lamp Does Not Ignite (switch on)	Check power cord is plugged in.
	Check Power Switch is in "ON" position.
	Check lamp life meter.
	Check that cover inter-lock switch is properly seated.
	Check Lamp Module for proper engagement.
Lamp Flashes	Check lamp life meter.
	Visually inspect lamp for discoloration
Lamp has low light output	Check Illumination Control for proper setting.
	If power is low through Fiber Optic cable check for damage
	Check lamp life meter.
	Check Lamp Module for proper engagement.
	Check proper seating of Light Guide in receptacle.
Lamp fails to re-ignite (hot lamp)	Check and verify the side door is shut and secured.
	Check lamp life meter
	Turn power OFF and allow lamp to cool for approximately 5 minutes
	Turn power ON, if lamp does not re-ignite replace Lamp Module.

REPAIR POLICY

If your equipment requires factory attention, contact ITI's Customer Service Dept. at (413) 562-3606 for a Return Authorization Number. Please be prepared to furnish your model and serial numbers. Return the equipment to ITI, freight prepaid.

Ship to:

Instrument Technology, Inc.
33 Airport Road
Westfield, MA 01085-1357

Please note Return Authorization Number on Purchase Orders, and all shipping documents.

Upon receipt of your equipment, ITI will assess its condition to determine if repairs are needed. If repairs are required, we will quote repair costs and a schedule for repairs. Your options at this point are:

1) Accept Repair

To proceed with the repair, ITI will require a purchase order for the full quoted repair price.

2) Decline Repair - Upgrade to a New Instrument

Choosing this option requires a purchase order for the new equipment at its quoted price. ITI will ship out the next available unit.

3) Decline Repair

Please Note - Most repair evaluations require a partial or complete disassembly of the equipment. **Once disassembled, it is impossible to return it to the customer in "as received" condition.** At the customer's option, ITI will either return your equipment in its disassembled state, or dispose of it.

Equipment Model Number Xenon Light Source

To obtain replacement parts or additional information regarding your Xenon Light Source write or phone ITI's Service Department.

Model No.	Description
125030A	Xenon Light Source, 300 Watt
521-001	Lamp Holder Assembly with lamp

ITI LAMP WARRANTY

CLAIM FORM

CLAIM WILL NOT BE CONSIDERED UNLESS THIS FORM IS COMPLETED AND RETURNED WITH DEFECTIVE BULB

Light Source Model # 125030A Light Source S/N _____

Lamp S/N _____

Total Hours on Lamp _____

Operating Amps _____

Operating Voltage _____

Reason for Return _____

Form Completed by _____

Company _____

Date _____

Date of Purchase _____

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Ceramic Lamp Operational General Information

Maximum operational seal temperature should not exceed 200° Celsius for optimum operation and extended lamp life. To achieve this temperature, forced air cooling is required. Contact ITI for cooling recommendations.

ITI Xenon lamps are covered by a 500 hour warranty or 1 year from date of purchase. Check to verify the applicable warranty in your application. All lamps returned to ITI must be accompanied by a completed warranty claim form (see reverse side). The warranty may be waived or limited if the instructions herein are not followed. ITI assumes no liability for lost profits or consequential damages resulting from the operation of an ITI lamp for any reason.

All lamps are under pressure and must be handled with care. Safety glasses or face shields should be worn, when disassembling lamps from Lamp Module.

Do not touch the sapphire window with bare hands – finger marks can cause early deterioration of material leading to possible failure. If handled, clean with an alcohol swab.

The permissible burning positions must absolutely be adhered to since deviations can lead to shortened lamp life. Contact ITI for recommendations on operating positions.

ITI Xenon lamps should not be operated below or above specified current values.

All lamps must be mounted in suitable heat sinks. Apply thermal conductive compound between lamp and heat sink surfaces. Ensure a snug fit between lamp and heat sink.

Correct polarity of all lamps is critical. Reversed polarity will instantly damage the electrodes causing failure and void warranty.

Periodic inspection of all terminals is required to avoid high contact resistance that would damage the lamp and /or power supply. The terminal should be firmly tightened and corrosion-free.

Do not look directly at operating lamps: severe eye injury will occur. Wear protective lenses when working around operating lamps.

It is recommended that lamps be operated within the specific power limits. Overpowering a lamp will cause rapid electrode wear and may lead to structural failure. Under powering may cause arc instability and, eventually, hard starting. Current regulated or power regulated supplies with output ripples of less than 5% are recommended. Single pulse ignition (mono-polar) is advised because radio frequency status may damage the lamp's internal reflector.



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