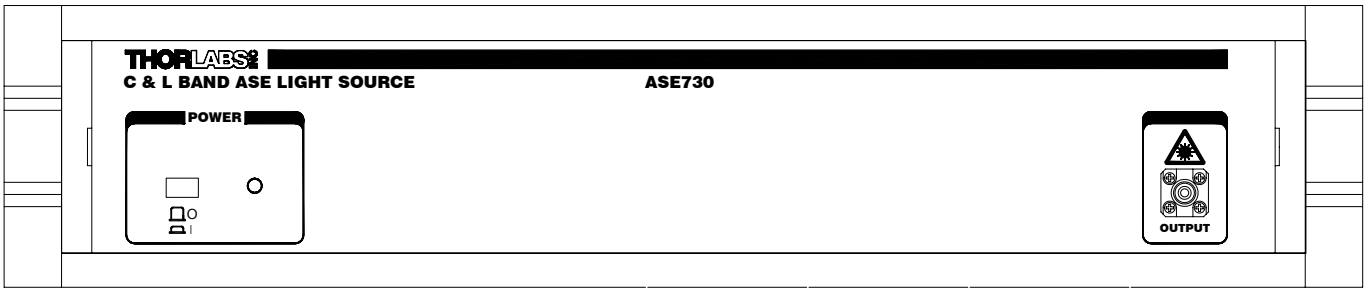
ASE730

C & L Band ASE Light Source

User's Manual



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Important Note to Purchaser

All technical information and recommendations related to Thorlabs products made in this manual are believed to be reliable. Before utilizing the product, the user should determine the suitability of the product for its intended use. The user assumes all risks and liability whatsoever in connection with such use.

This product is not intended for use in explosive environments.

Warranty

The ASE730 is warranted against defects in materials and workmanship for a period of one year from the date of shipment. During the warranty period Thorlabs will at it's option repair or replace products that are found to be defective.

This warranty does not apply to defects caused by improper handling or operation of the ASE730. If the product is found to show excessive wear or to show signs of misuse Thorlabs will provide the customer with a quotation on repairing or replacing the unit.

The warranty will be void if it is found that the fiber module has been opened; please see WARNING below.

WARNING!

There are no user serviceable parts inside of this unit.

The fiber module (4" x 8", with black cover) located inside the box is hermetically sealed. Removal of the cover that seals the fiber module will void the warranty on the ASE730; replacement fiber module cost is in excess of $14,000. Please do not attempt to service this system; call Thorlabs, Inc. at 973-579-7227 for service.

Description:

The ASE730 is a broadband white light test source in the 1510nm to 1610nm regions. It has been designed to satisfy the demand for longer wavelength (1550nm to 1600nm) test equipment for the emerging L-band market.

This device takes advantage of an erbium doped fluoride fiber that is pumped with a single 1480nm laser diode to produce 30mW (14.77dBm) of white light. The very broad output spectrum has been achieved by utilizing an erbium doped fluoride fiber pumped by a single laser diode, this design allows for a higher degree of power and wavelength stability than conventional silica fibers. The output fiber is a standard SMF28 silica fiber.

Technical Specifications:

Table 1 - Specifications

Parameter	Min	Typical	Max	Unit
Operation Wavelength	1530		1610	nm
Output Power	30	32.5	35	mW
Stability – Short term (15min)*		+/- 0.001		dB
Stability – Long term (48 Hr)		+/- 0.05		dB
Output Fiber Type		SMF28		
Operating Temperature	0		40	°C
Storage Temperature	-10		45	°C

* after 1 hour warm-up period

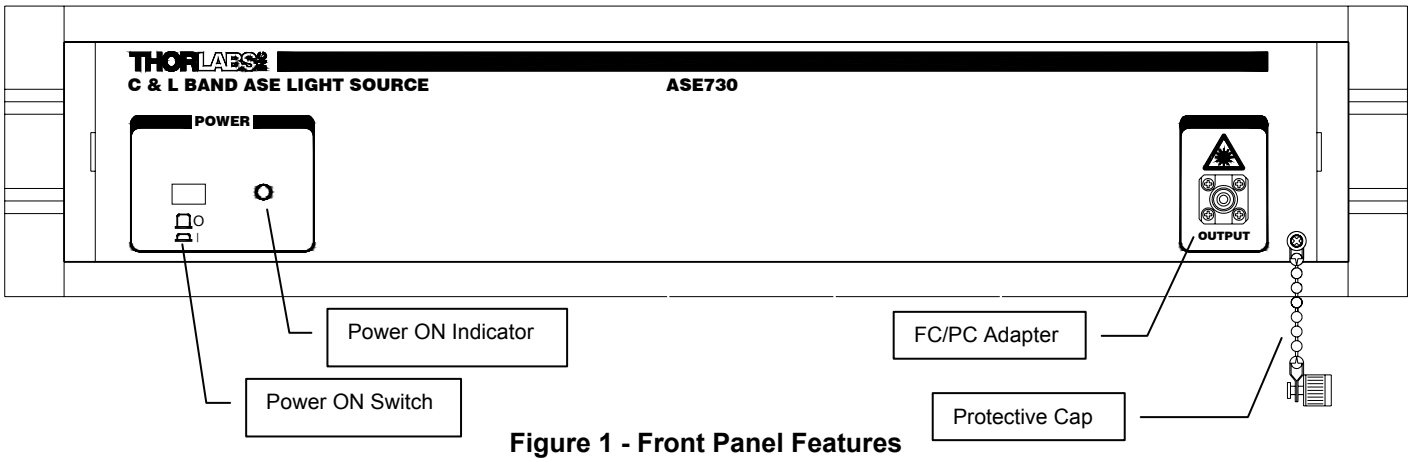


Figure 1 - Front Panel Features

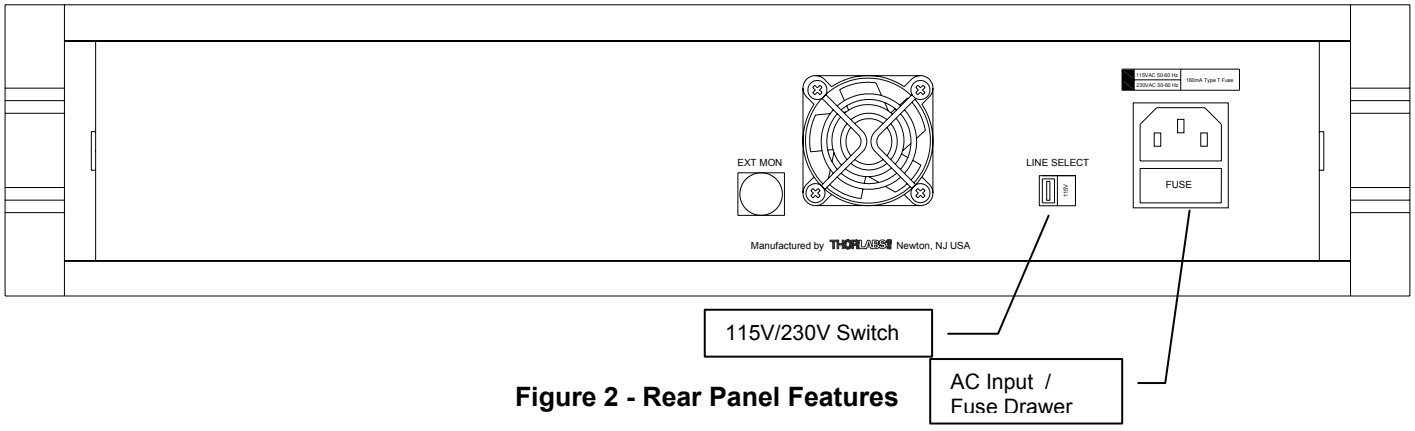


Figure 2 - Rear Panel Features

Operation:

IMPORTANT! Please Read Before You Begin….

Setting the AC Line Voltage and Installing Fuses

Your ASE730 unit has been shipped from Thorlabs, Inc. configured for 115VAC operation. If you are planning to operate your unit using a 220 / 230VAC input, or need to replace an open fuse, you must perform all or part of the following procedure:

Setting the AC Line Voltage

- If it is attached, remove the AC line cord from the AC Input connector on the rear panel of the unit.
- Using a small screwdriver or similar tool move the LINE SWITCH actuator, on the rear panel, to either the "115V" setting or the "230V" setting, whichever corresponds to your local commercial electrical service. The 115V position allows operation from approximately 100VAC to 120VAC, while the 230V position allows operation from approximately 200V to 250V.

Installing the AC Input Fuse

- If it is attached, remove the AC line cord from the AC Input connector on the rear panel of the unit.
- Remove the existing fuse from the unit by pulling out the fuse holder, located in the bottom half of the AC Input Module. This drawer will contain the existing fuse. It may be necessary to pry the drawer open with a small screw driver. The drawer will remain attached to the module and cannot be completely removed.
- Remove the existing fuse from the fuse holder and insert the replacement fuse into the fuse holder. See Fuse Replacement Information below for further information.
- Slide the fuse holder drawer back into the AC Input Module

Fuse replacement information

- For 115V operation use only 160mA 250V Type "T" fuse
- For 230V operation use only 160mA 250V Type "T" fuse

Power Connection

> Only use a three pronged AC power cord; failure to provide an adequate earth ground may cause serious injury to the user and possible damage to the instrument.

EXT MON Connector

> The EXT MON connector located on the rear panel of the ASE730 is used only during the manufacture of the unit and does not provide any user accessible functions. Improper connections made to this terminal will result in permanent damage to the unit.

Warm Up

Connect an AC Line cord to the AC Input Module on the unit and to an appropriate AC outlet. Press the main switch on the front panel. Allow the unit to warm-up for 1 hour prior to use.

Optical Connection

The ASE730 is supplied with an FC/PC output connector. Please keep this output connector covered with the attached cap and chain when not in use.

Do not use an index matching gel with the ASE730. Typically, the use of an index matching gel will not improve the coupling of our standard ultra-polished FC/PC connector. The use of a gel will very often lead to degradation of the performance of the connection in that it effectively traps contaminants that will damage the physically contacting connectors.

Thorlabs strongly recommends that all connector ferrules be visually inspected prior to attachment to the ASE730. Any dirt or imperfections on the ferrule must be removed prior to connection. Making consistent measurements with this instrument depends strongly on the quality of the connections.

Connector Cleaning Procedure

1. Using filtered dry compressed air (Thorlabs item #VRK404) blow the end of the connector to remove any loose contaminants.
2. Apply isopropyl alcohol to a lint free wipe (Thorlabs item #KM32) and clean the side of the connector ferrule and the connector body.
3. Blow the connector ferrule once again with the dry filtered compressed air.
4. Apply isopropyl alcohol to a lint free wipe and clean the end face of the connector ferrule.
5. Visually inspect the connector end face with a 100X (Thorlabs item FF394-FC) or greater inspection scope.
6. Connect optical patch cord to ASE730.

The ASE730 is now ready for operation. Please refer to the documentation included with these instructions for data specific to your unit.

Please contact THORLABS, Inc. for any additional technical support.

Thorlabs recommend calibration of the ASE Source every two years. Calibration consists of a re-testing of the power and spectral stability tests. Please contact Thorlabs at 973-579-7227 for pricing and information on having the unit calibrated.

Care and Maintenance

There are no user serviceable parts in the ASE730. Please contact ThorLabs, Inc. for instructions on returning any unit that does not perform as specified.

The enclosure of the unit can be cleaned by wiping with a slightly dampened cloth. Do not use any solvents or other cleaning agents.

If you suspect that the ceramic ferrule on the FC/PC output adapter is dirty or damaged, please contact ThorLabs, Inc. and we will arrange to have the unit serviced.

WEEE

As required by the WEEE (Waste Electrical and Electronic Equipment Directive) of the European Community and the corresponding national laws, Thorlabs offers all end users in the EC the possibility to return “end of life” units without incurring disposal charges.

This offer is valid for Thorlabs electrical and electronic equipment

- sold after August 13th 2005
- marked correspondingly with the crossed out “wheelie bin” logo (see fig. 1)
- sold to a company or institute within the EC
- currently owned by a company or institute within the EC
- still complete, not disassembled and not contaminated

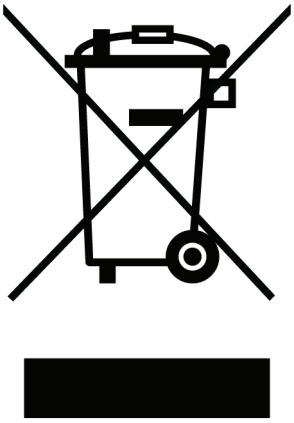
As the WEEE directive applies to self contained operational electrical and electronic products, this “end of life” take back service does not refer to other Thorlabs products, such as

- pure OEM products, that means assemblies to be built into a unit by the user (e. g. OEM laser driver cards)
- components
- mechanics and optics
- left over parts of units disassembled by the user (PCB’s, housings etc.).

If you wish to return a Thorlabs unit for waste recovery, please contact Thorlabs or your nearest dealer for further information.

Waste treatment on your own responsibility
If you do not return an “end of life” unit to Thorlabs, you must hand it to a company specialized in waste recovery. Do not dispose of the unit in a litter bin or at a public waste disposal site.

Ecological background
It is well known that WEEE pollutes the environment by releasing toxic products during decomposition. The aim of the European RoHS directive is to reduce the content of toxic substances in electronic products in the future.
The intent of the WEEE directive is to enforce the recycling of WEEE. A controlled recycling of end of live products will thereby avoid negative impacts on the environment.



Crossed out “wheelie bin” symbol

Appendix “A” Final Test Inspection Records

Sheet 1: Summary of test results

Sheet 2: Power Density versus Wavelength Plot

Sheet 3: 15 minute Stability Test

Sheet 4: 30 minute Stability at 0° C

Sheet 5: 30 minute Stability at 40° C

Sheet 6: 48 Hour Power Stability

Sheets 7 & 8: Power Stability at 2nm Window