Installation and Operation Manual

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WARNING

Protective Eye Wear Must Be Worn When Using This Instrument -
Intense Ultraviolet Radiation Present
See Important Safety Notices inside.

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Important Safety Notices

1. Read this manual before you attempt to use this instrument.
2. Do not remove or modify any installed safety device on this equipment. Doing so will void your warranty and create an unsafe operating environment.
3. Only allow qualified personnel to service this unit.
4. Before using the optical tool for the first time check for transport damage. Do not use the unit if it is damaged in any way. Contact your dealer for repair or replacement information.

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About This Manual

Document Purpose and Intended Audience

This document provides you with an installation section to get your light source up and running.

Document Summary

Chapter	Description
Chapter 1: *Setup and Operation*	Provides a list of package contents and unpacking instructions. Also contains fiber connection and bulb replacement instructions.
Chapter 2: *Vivo Specifications*	Contains product specifications and a parts list.

Product-Related Documentation

You can access documentation for Ocean Optics products by visiting our website at **http://www.oceanoptics.com**. Select *Technical → Operating Instructions*, then choose the appropriate document from the available drop-down lists. Or, use the **Search by Model Number** field at the bottom of the web page.

You can also access operating instructions for Ocean Optics products on the *Software and Technical Resources* CD included with the system.

Engineering-level documentation is located on our website at *Technical → Engineering Docs.*

Upgrades

Occasionally, you may find that you need Ocean Optics to make a change or an upgrade to your system. To facilitate these changes, you must first contact Customer Support and obtain a Return Merchandise Authorization (RMA) number. Please contact an Ocean Optics Application Scientist for specific instructions when returning a product.

Chapter 1

Setup and Operation

Overview

The Vivo is an NIR light source for analysis of pharmaceutical products, food and more. Vivo features four tungsten-halogen bulbs placed at a 90 degree angle from your optical fiber that can be turned on and off individually. By providing output from four tungsten-halogen bulbs, Vivo becomes a high-powered VIS-NIR light source, enabling you to integrate your spectrometer for a shorter time period than conventional light sources.

You can attach Vivo directly an Ocean Optics Stage-RTL-T, or to your own stand for great stability and control. Also, Vivo features active cooling that reduces the risk of overheating your sample, ensuring accurate measurements.

Vivo

Unpacking Vivo

The following sections provide instructions on unpacking and setting up your Vivo.

Before using the Vivo for the first time, check for transport damage. Be sure to adhere to all warnings on the unit and in this manual.

► *Procedure*

1. Unpack your Vivo device carefully.
2. Inspect the outside of the instrument and make sure that there is no damage. Do not use the instrument if damage is present.
3. Switch on the unit and check if all bulbs are working by pressing both pushbuttons.

WARNING

Do not stare directly into the light beam of the lamps!

Package Contents

Your Vivo package should contain the following:

- ❑ Vivo device
- ❑ Power supply (12 Vdc @ 2.5 A)
- ❑ Three hexagonal socket screw keys (SW 1.3 mm, SW 2.0 mm and SW 2.5 mm)
- ❑ SMA barrel
- ❑ Magnetic ring

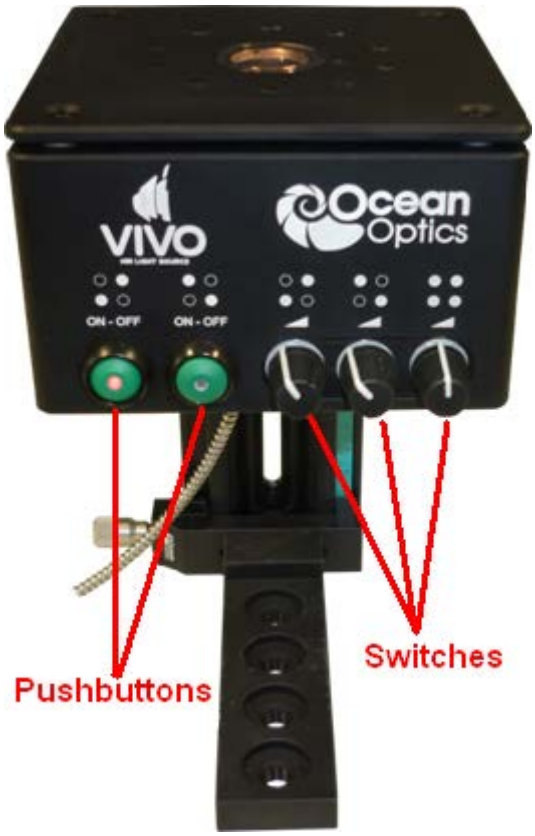
Caution

For optimal use, take care that no objects or liquids enter the device and that there is no grease residue on the glass window.

Vivo Lamp Controls

The device is running with 12 Vdc @ 2.5 A maximum current. Be sure to use the included power supply and do not change its voltage settings. Other voltages may cause damage.

At the right side of the device there is a green power switch next to the DC power socket. On the front there are two push buttons and three rotating switches. The push buttons can be used to switch on one pair of bulbs. The rotating switches regulate the intensity of the bulbs. Refer to the picture below.

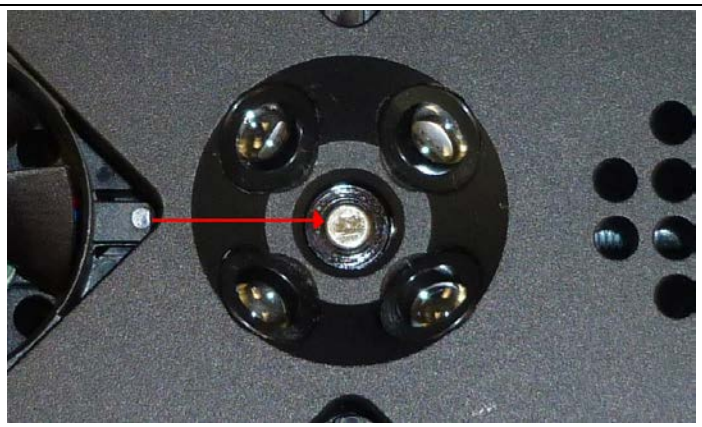


Connecting an Optical Fiber

To connect an optical fiber with an SMA connection, use the SMA-barrel. The fiber with the SMA-barrel must be mounted from the bottom of the device.

► *Procedure*

1. Push the fiber till the SMA-barrel completes with the end of the SMA lead-through.



2. To fasten the SMA-barrel, tighten the screw shown below with a hexagonal socket screw key SW 2.5.

Changing the Bulbs

Caution

Bulbs must be changed as a pair (two face-to-face bulbs are considered to be a pair).

Do not over-tighten the screws. The plastic screws could be damaged and the stud screws could damage the bulbs if they are tightened too much.

► *Procedure*

1. Before changing the bulbs switch off the power and disconnect the power plug.

2. Unfasten the lamps by dismounting the top plate. To do this, unscrew the 4 plastic screws on the top plate (shown in figure below).

3. Dissemble the punched plate on the bottom side by removing the 4 screws with the hexagonal socket screw key SW 2.0.

4. After removing the punched plate, unplug the lamps you want to change. The lamp lines are yellow and black, and the plugs are placed in the corners of the circuit board (see figure below).

5. To remove a bulb, unfasten a stud screw from the top side (see figure in Step 2) using a hex screw key SW 1.3.

6. Pull the bulb on its line to the button or push it to the top to remove the bulb. Replace the new bulb in the same way. The position of the new bulb should be the same as shown in the figures below. Do not place the bulbs nearer to the glass window (this could cause stray light or cover the fiber) or farther (this would defocus the light spot on the glass window and the spot becomes less uniform).

Chapter 2

Vivo Specifications

Specification	Value
Size (LxHxW) in mm	120 x 160 x 75
Weight	1.6 kg
Wavelength Range	360 – 1700 nm
Stability	0.15 % @ 900 nm; 0.05 % @ 1400 nm
Drift	< 0.2 % per hour
Time to stabilize	2 – 5 minutes
Lamp power	30 W
Output to bulb	up to 5 VDC / 0.97 A
Bulb lifetime	2000 hours
Bulb color temperature	2800K
Temperature range	5 -- 35°C
Humidity range	5 – 95% at 40°C

Vivo Parts

Part	Catalog Number
Vivo IR Illuminator Light Source	VIVO
Vivo replacement bulb	VIVO-B

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