

# USB-ISS-UV/VIS

## Integrated Sampling System

### Installation and Operation Instructions

## Description

The USB-ISS-UV/VIS Integrated Sampling System is a snap-on, direct-attach 1 cm cuvette holder and UV/VIS/NIR light source (200-1100 nm) combination created specifically for the USB4000 Spectrometer and the USB2000+ Spectrometer (and their predecessor, the USB2000 Spectrometer). The deuterium tungsten light source receives control instructions via the accessory connector on the spectrometer.



The USB-ISS-UV/VIS also contains a built-in cooling fan. Therefore, due to the increased power requirements of the light source, the sampling system requires a separate 5-volt power supply (included with the system).

## Parts Included

The USB-ISS-UV-VIS Integrated Sampling System ships with the following components:

- USB-ISS-UV/VIS miniature deuterium tungsten halogen light source
- 5-volt DC power supply
- SMA Collimator for spectrometer SMA coupling

## Installing the Sampling System

Do not attempt to connect the USB-ISS-UV/VIS to the spectrometer without following the installation instructions in this section. Furthermore, ensure that the spectrometer operating software (OOIBase32 or SpectraSuite) is installed on your PC and that the spectrometer is obtaining data before connecting the USB-ISS-UV/VIS.

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### WARNINGS

- **The light beam emitted from the USB-ISS-UV/VIS contains ultraviolet radiation and can cause eye damage. Always use safety goggles when working with this product.**
  - **DO NOT OPEN THE USB-ISS-UV/VIS. The USB-ISS-UV/VIS has an internal high voltage power source. Dangerous voltage levels are present, and there are no user-serviceable parts.**
  - **The USB-ISS-UV/VIS has an internal high voltage power source. Thus, you should not adjust the unit while it is connected to a power source.**
  - **Contact Ocean Optics for bulb replacement.**
  - **Do not use this instrument for any clinical or diagnostic measurements.**
  - **Dropping the unit can cause permanent damage. Handle with care.**
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## Adjusting the Cuvette

### ► Procedure

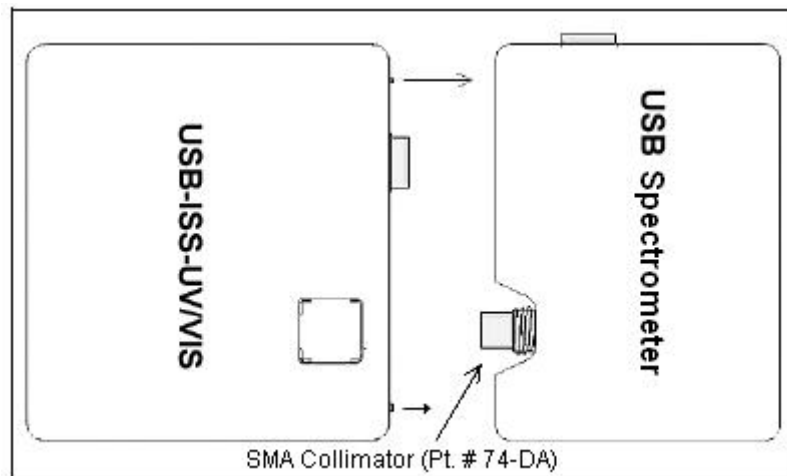
1. Locate the ball plunger screws (accessed on the front face of the unit and through the hole opposite the power jack on the side of the unit).
2. Use a small flathead screwdriver to loosen the ball plunger screws until the end is visible in the holder.

3. Insert a cuvette into the cuvette holder.
4. Tighten the ball plunger screws until the cuvette is stationary in the cuvette holder. Do not over-tighten.
5. Remove the cuvette from the cuvette holder.

## Connecting to the Spectrometer

### ► Procedure

1. Remove the power from the spectrometer by disconnecting it from the PC or detaching the USB cable.
2. Attach the SMA Collimator to the SMA 905 connector of the spectrometer. This should be connected so that the outer threaded half of the collimator is pointing towards the spectrometer. The USB-ISS-UV/VIS will not connect correctly if this piece is not properly oriented (see diagram below).



3. Screw the USB-ISS-UV/VIS to the front of the spectrometer using a standard flathead screwdriver. The connection screws are accessed from the front of the USB-ISS-UV/VIS (the white lined holes on the front of the unit).
4. Connect the power supply to a standard power outlet, and then connect the 5-volt power connector to the USB-ISS-UV/VIS. This will activate the unit, and the fan should begin to spin.
5. Connect the USB cable to the spectrometer and to the PC.

## Aligning with the Spectrometer

If your USB-ISS-UV/VIS was preassembled with a spectrometer, it has been specifically aligned with that particular spectrometer. If your USB-ISS-UV/VIS was not preassembled with a spectrometer, ensure that you align the sampling system with the spectrometer.

### ► Procedure

1. Consult the calibration sheet that accompanied your spectrometer to verify the spectrometer configuration, which is also stored in your spectrometer's memory.
2. Install the SMA Collimator (see Step 2 of the [Connecting to the Spectrometer](#) section, previous page).
3. Tighten the screws on the cuvette holder to fasten the cuvette in place (see the [Adjusting the Cuvette](#) section). Using the USB-ISS-UV/VIS

## Using the Sampling System

### ► Procedure

1. Start the operating software.
2. Open the internal shutter on the USB-ISS-UV/VIS. To do this,
  - For SpectraSuite software, check the **Strobe/Lamp Enable** check box on the Acquisition toolbar.
  - For OOIBase32 software, select **Strobe Enable** from the OOIBase32 Acquisition Parameters menu bar.

## Specifications

Dimensions (L x W x H)	198 x 105.1 40.6 mm
Weight	200 g
Power Consumption	1.8 A @ 5 VDC
Wavelength Range (source)	200-1100 nm
Path Length	1 cm
Cuvette Shape	Square
Light Source	Deuterium tungsten
Bulb Life (hours)	800 (deuterium); 2,000 (tungsten)
Time to Stabilized Output	~30 minutes
Z Dimension	15 mm