

# USB-DT

## Direct-attach Light Source

### Installation and Operation Instructions

## Description

The USB-DT is a direct-attach UV light source providing broadband output from 200–2000 nm for Ocean Optics' USB2000, USB4000, USB2000+, HR2000, HR4000 or HR2000+ Spectrometer. The USB-DT connects to an Ocean Optics spectrometer in the following ways:

- Stacked underneath the USB2000, USB4000 or USB2000+ Spectrometer and connected with the DB15 accessory cable (HR4-CBL-DB15) or the USB2000/DT Adapter (USB-ADP-DT2)
- Connected to an HR2000, HR4000 or HR2000+ Spectrometer with the DB15 accessory cable (HR4-CBL-DB15) or the Breakout Box (HR4-BREAKOUT)



## Parts Included

The USB-DT ships with the following items:

- ❑ USB-DT Light Source
- ❑ 5VDC power supply
- ❑ DB15 accessory cable (HR4-CBL-DB15)

## Additional Accessories Available

The following are additional accessories available from Ocean Optics that you may need, depending on your system set-up:

- Fiber optic cable for connection to the spectrometer
- Breakout Box (HR4-BREAKOUT)
- USB Series Spectrometer DT adapter (USB-ADP-DT2)
- Replacement bulb (USB-DT-B)

## Using the USB-DT

The following sections provide instructions on setting up and using the USB-DT.

### Connecting the USB-DT

The set-up procedure differs, depending on whether you are connecting the USB-DT to a USB Series or an HR Series Spectrometer.

#### Connecting to a USB Series Spectrometer

► **Procedure**

Follow the steps below to connect the USB-DT to a USB Series Spectrometer:

1. Remove the USB-DT from the product packaging.
2. Connect the spectrometer's 10-pin accessory connector to the USB-DT Adapter  
OR
3. Connect the spectrometer to the DB15 cable assembly and connect the other end to the USB-DT's 15-pin connector.

You have now connected the USB-DT for operation with the USB Series Spectrometer.

## Connecting to an HR Series Spectrometer

### ► Procedure

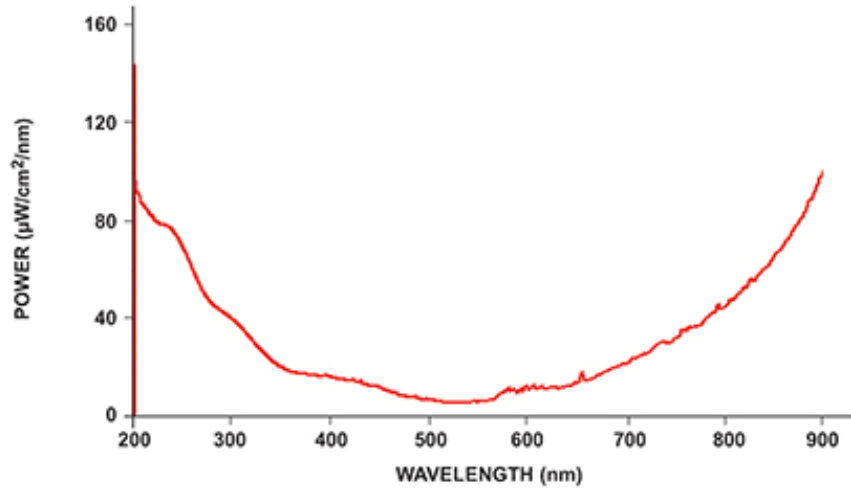
Follow the steps below to connect the USB-DT to an HR Series Spectrometer:

1. Remove the USB-DT from the product packaging.
2. Connect the spectrometer's 30-pin accessory connector to the Breakout Box using the Breakout Box Accessory cable.  
OR
3. Connect the spectrometer to the DB15 cable assembly and the other end to the USB-DT's 15-pin connector.

You have now connected the USB-DT for operation with the HR Series Spectrometer.

## USB-DT Specifications

Specification	Value
Dimensions (mm)	88.9 x 94.6 x 39.7
Weight	260 g
Power consumption	1.5 A @ 5 VDC
Wavelength range (source)	200-2000 nm
Path length	1 cm
Cuvette shape	Square
Light source	Deuterium tungsten
Bulb life (hours)	800 (deuterium); 2,000 (tungsten)
Time to stabilized output	0.5% peak-to-peak (after warm-up)
Spectrometers	USB2000,USB4000, USB2000+, HR2000, HR4000, HR2000+



USB-DT Spectral Output

## USB-DT Pinout Information

The following section contains information on the 10-pin output connector on the USB-DT.

10	8	6	4	2
9	7	5	3	1

Pinout Diagram of the 10-Pin Output Connector on the USB-DT

### Pinouts

Pin	Function
1	Unused
2	Unused
3	Unused
4	Lamp Enable
5	Continuous Strobe
6	Ground
7	External Trigger In
8	Single Strobe
9	I <sup>2</sup> C SCL
10	I <sup>2</sup> C SDA

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**Pinouts of the DB15 Output Connector on the USB-DT**

Pin	Function
1	Single Strobe
2	Continuous Strobe
3	RS232 Rx
4	External Trigger In
5	Unused
6	Unused
7	Unused
8	External Trigger In
9	Unused
10	Ground
11	I <sup>2</sup> C SDA
12	I <sup>2</sup> C SCL
13	Lamp Enable
14	Unused
15	Unused

