



NeoFox Quick Start Guide

You're on your way to deeper insight into your oxygen measurements using high-speed optical technology. Follow this guide to quickly start turning the unknown into the known.

A complete **NeoFox** Installation and Operation Manual can be found on our website at OceanInsight.com.

Getting Started

The **NeoFox** connects to a PC via USB connection and saves your data in an easy-to-use Microsoft Excel format. **NeoFox** can be configured with single-channel LED excitation and detection. There is an on-board pressure transducer that measures atmospheric pressure.

System Contents

All **NeoFox** systems include:

- NEOFOX-GT Phase Fluorimeter
- Power Supply with International Adapters
- USB Cable

Depending on the sensor form-factor purchased, your system may also include:

- Optical Bifurcated Fiber Bundle (BIFBORO-###-2 or RE-BIFBORO-2)
- Splice Bushing (21-02, only with select probes)
- Sensor Probe
- Pack of Non-Invasive Oxygen Patches (used with RE-BIFBORO-2)
- Temperature Probe

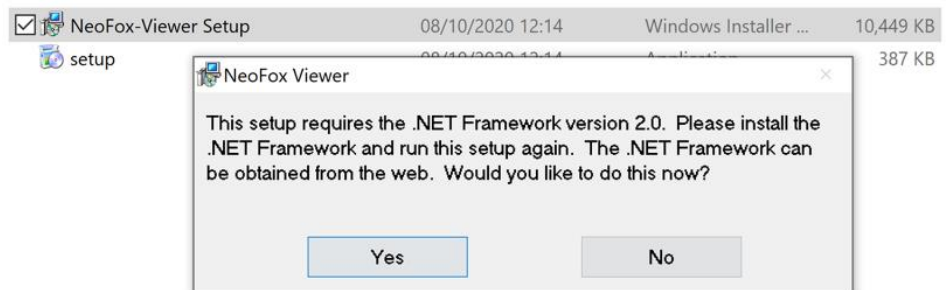
NOTE

The pink/red/orange coating at the tip is the oxygen responsive chemistry. **DO NOT CLEAN OR ATTEMPT TO REMOVE!**

Install NeoFox Viewer

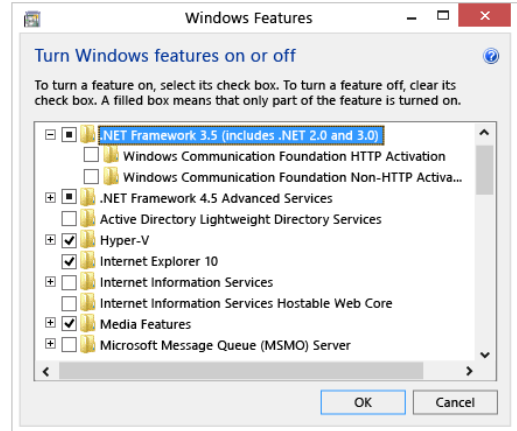
Download the installer at OceanInsight.com. Install this package before connecting the NeoFox hardware.

Are you seeing the .NET Framework error message?



The fix is simple! You can enable the .NET Framework 3.5 through the Windows Control Panel. This option requires an Internet connection.

1. In the search bar on your desktop, type "Windows Features", and press Enter. The Turn Windows features on or off dialog box appears.
2. Select the **.NET Framework 3.5 (includes .NET 2.0 and 3.0)** check box, select **OK**, and reboot your computer if prompted.



Hardware Setup





Warning

Ensure that the plastic caps are covering the two SMA connectors on the front of the NeoFox unit. Intense UV radiation is emitted from the LEDs when the unit is powered on. **DO NOT** look directly at the LED output with the naked eye.

NOTE

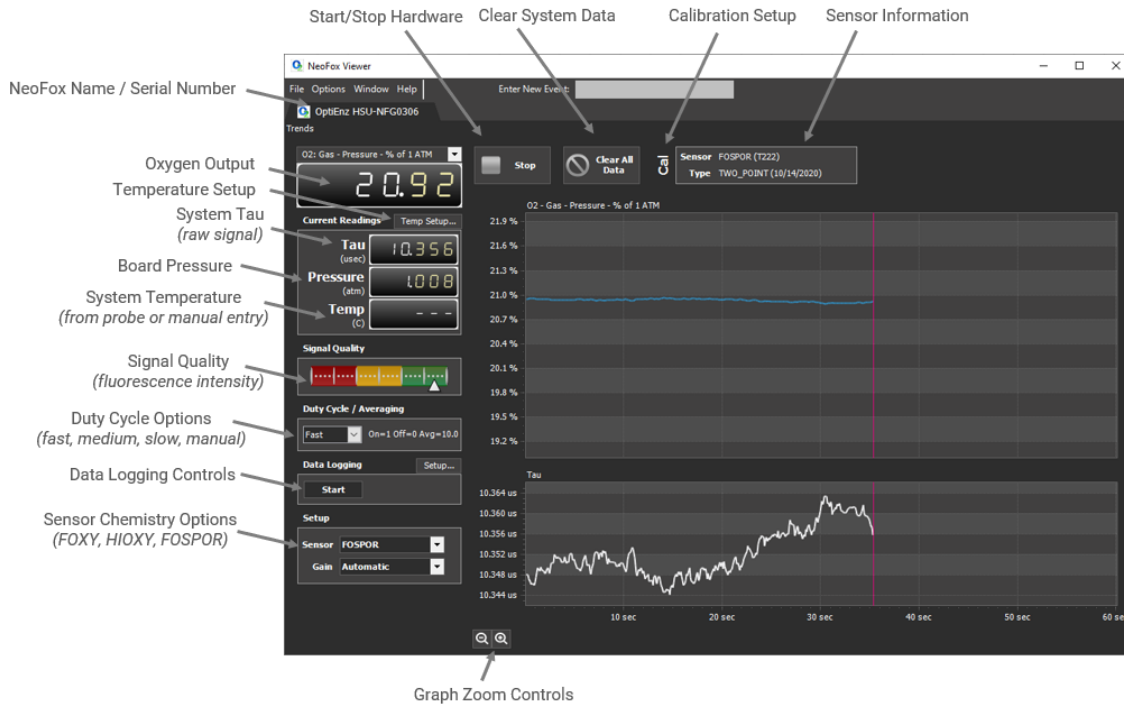
You must install the NeoFox Viewer operating software prior to connecting the NeoFox hardware to the computer. The NeoFox Viewer software installs the drivers required for NeoFox hardware.

1. Unpack the equipment and verify that you have all the necessary components.
2. Ensure the 2 SMA's on the NeoFox are covered with the provided plastic caps.
3. Connect the power cord from back of the NeoFox to an AC outlet. **DO NOT** look directly at the light being emitted with the naked eye.
4. Connect the NeoFox to your computer using the supplied USB cable.
5. Connect the temperature probe (if you have one) to the rear panel of the NeoFox.
6. Locate the bifurcated fiber that came with the system. This optical fiber assembly has a "Y" shaped design.
7. Connect one arm (it doesn't matter which one) of the bifurcated end of the probe fiber to the LED connector and the other arm to the Detector connector on front of unit.
8. If you are using an Oxygen probe, locate the 21-02 SMA Splice Bushing that came with the probe. Screw one end of the splice bushing into the SMA 905 connector on the end of the probe. If you are using the RedEye Patch, you don't need the splice bushing.

NeoFox Operation

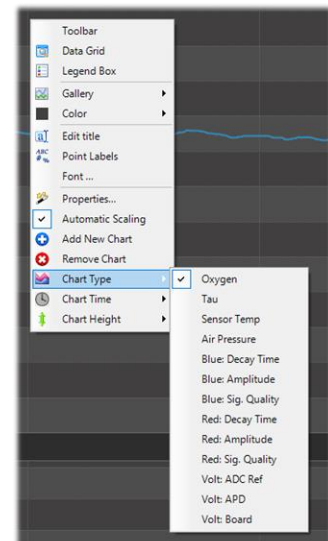
When the **Neofox** is connected to your computer, Windows will find the drivers and notify you that the device is ready.

On opening the **NeoFox Viewer** Software you will see the dark-themed dashboard described below:



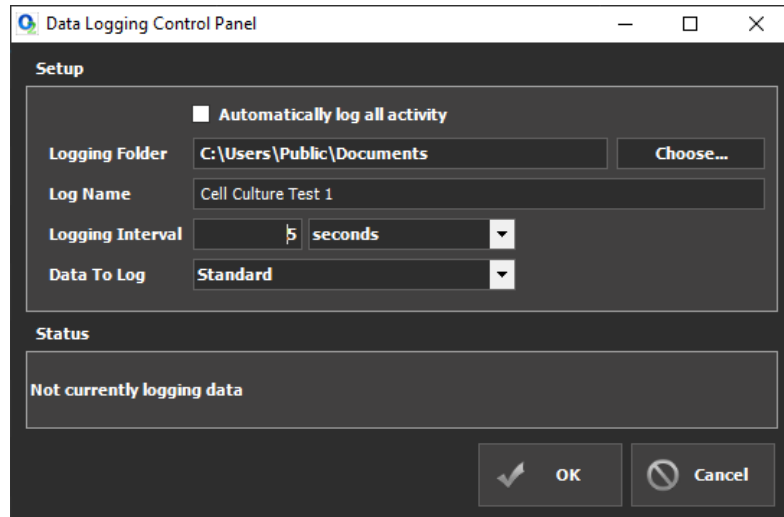
Graph Tools

Right-click anywhere on the graphs for complete control of what data is displayed and how.

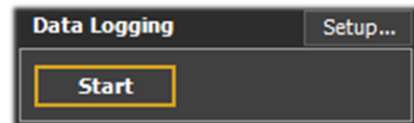


Data Logging

Click **Setup** on the Data Logging Controls tab. Proceed to enter data logging parameters before starting your study.



Be sure to click **Start** after setting up parameters.



Calibration Steps Required for Measurement

Your **Neofox** system is supplied with or without a factory calibration, depending on what you specified at purchase.

- **With Factory Calibration** (O2-CAL-STANDARD or O2-CAL-CUSTOM)
 - Your system is ready to plug & play!

NOTE

Disconnecting any fiber or probe connections will void the factory calibration. The system is calibrated with locked optical alignment.

- **Without Factory Calibration**
 - If no factory calibration was supplied then a 2-point calibration is required for accurate measurement.
 - Ocean Insight has a short video demonstrating the proper protocol for making a 2-point oxygen calibration in gas or liquid. Navigate to [OceanInsight.com](https://www.oceaninsight.com), scroll to the bottom of the page and click the link for Ocean Insight's YouTube channel. Within the YouTube channel search for NeoFox.
 - Summary of 2 point calibration: Under the Options drop down menu, select Oxygen Calibration to open the calibration window. Acquire and save Tau values at 2 known oxygen levels (reference points). Each fixed-point

concentration is entered in the table along with the corresponding tau value via the Use Current Tau button.

Notes on Oxygen Reference Points

A 0% oxygen reference is needed, for which any oxygen-free gas such as argon, nitrogen, helium would typically be used. Alternatively, 0% reference solution sachets can be purchased, or prepared by mixing a suitable Oxygen scavenging chemical with water.

The second calibration point can be any non-zero oxygen level within the limits of sensitivity of the sensor. Most commonly, 20.9% (atmospheric air) is selected as the standard second point oxygen concentration.

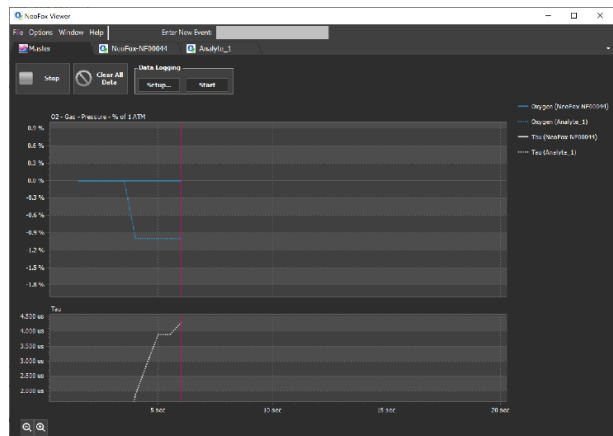
Take care that gas or liquid reference points are at one fixed temperature, which must be the same as that used in the experiment. Any changes in temperature will look to the sensor like a change in Oxygen concentration.

Be sure to allow sufficient time for the tau value to stabilize, which is displayed at the bottom of the calibration window.

Click [Download](#) to write the new calibration to the device.

Master Tab for Multi-Channel Support

A Master Tab is now displayed when multiple NeoFox's are connected, showing a conveniently combined graphical view of all channels.



Duty Cycle Options

The following pull-down options are made available on the main display:

Setting	LED On-Time (s)	LED Off-Time (s)	Total Cycle Time (s)	Averaging (s)
Fast	1	0	(always on)	10
Medium	3	7	10	3
Slow	5	25	30	5

Reduced Duty Cycle can help prolong sensor stability for long-term applications where the LED light may contribute to photobleaching drift over time.

Temperature Probe Assignment

You can assign one **NeoFox** temperature probe to another **NeoFox** or multiple units, eliminating the need for independent temperature probes attached to each channel.



Click the **Temp Setup** button under the oxygen display to open a new window for temperature value assignment.

Temperature values are only used for:

- Calculating oxygen if a Factory Multi-Point Calibration is loaded
- Logging temperature data relevant to the study

You can omit the temperature aspect, or enter a manual value, or choose not to use the temperature probe.

Unlock the Unknown

Ocean Insight exists to end guessing. We equip humanity with technology and data to make precisely informed decisions providing transformational clarity for human advancement in health, safety, and the environment.

Questions?

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