## Overview:

The Cyclops Explorer is a complementary product and handy tool when using your Cyclops Submersible Sensors in the lab. Plugging directly into the USB port on your computer, the Explorer guides the user through simple GUI controls to analyze samples, determine limits of detection, check instrument stability, or simply become familiar with how to use Cyclops functions.

### Features:

- Fixed or Auto Ranging options
- Graphical and tabular data view
- Data logging enabled
- Single data point capture for time series analysis of samples
- User defined sample intervals

### Possible Applications:

- Record productivity of algal cultures or samples by creating a time series of fluorescence responses.
- Estimate dye concentrations in lab samples using either discrete or continuous measurements.
- Explore how physical, chemical or biological water parameters affect fluorescent properties of algae and other material.

## Installing Cyclops Explorer Software:

1) Insert USB flash drive included with the packaged materials into your Windows PC.

2) Navigate to Environmental Instrument Documentation\Cyclops-7F\Cyclops-7F Accessories\Cyclops-7F Explorer Software. Files can also be downloaded from the Turner Designs website.

3) Double click Explorer driver Installation. Follow instructions on screen for installation process.

4) After Explorer driver is successfully installed, double click Cyclops Explorer Software Windows Installer .MSI file. Follow instructions on screen for installation process.

5) Start Cyclops Explorer software located in the Turner Designs folder accessible from the Windows Start menu. Once the software has been opened the following screen will appear:



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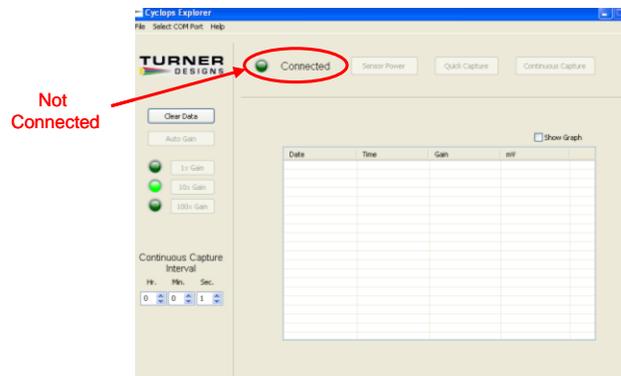
6) Connect a Turner Designs Cyclops fluorometer to your Cyclops Explorer accessory. Ensure the Cyclops Explorer is connected to a USB port of PC and power is supplied to the Cyclops Explorer via the power connector.

9) Under "Select COM Port" Menu select the COM port the Explorer cable is currently plugged into. Selecting the correct COM port will highlight the green marker to the left of the "Connected" title, indicating the computer and the Explorer cable have established communication:
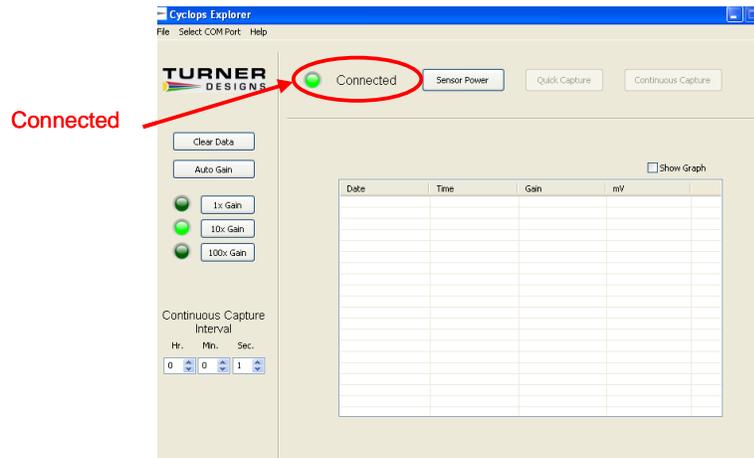


*Note: If the "Connected" marker does not light up green, this could be a matter of an incorrect COM port being selected. Simply select "Disconnect" on the Select COM port menu followed by "Refresh Port List" and choose the correct COM port.*

### Software Function:

Click the "Sensor Power" button to power the Cyclops sensor and you should notice that the LED on the sensor is illuminated. *Do not look directly at the optical head of a UV sensor as it may cause damage to your eye.* To check if a UV LED is on, hold a white sheet of paper in front of the optical face. You should see blue light on the sheet of paper indicating the UV LED is functioning properly.
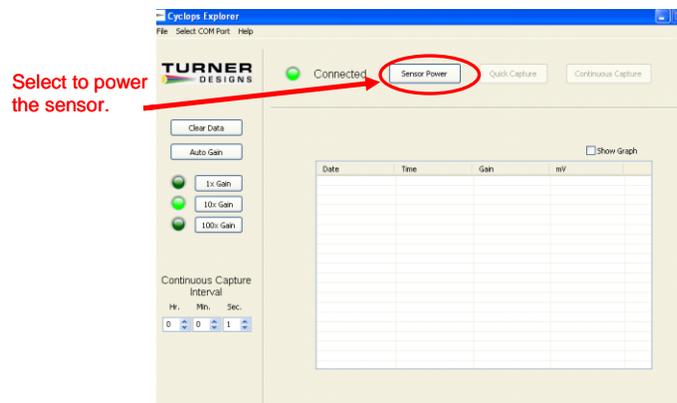


*Note: If the LED of the Cyclops fluorometer does not light up or you are unable to turn the power off and on with the "Sensor Power" button, this could be a matter of an incorrect COM port being selected. Simply select "Disconnect" followed by "Refresh Port List" and choose the correct COM port.*

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There are five sections that can be accessed from the Main Screen.  The sections are outlined below:
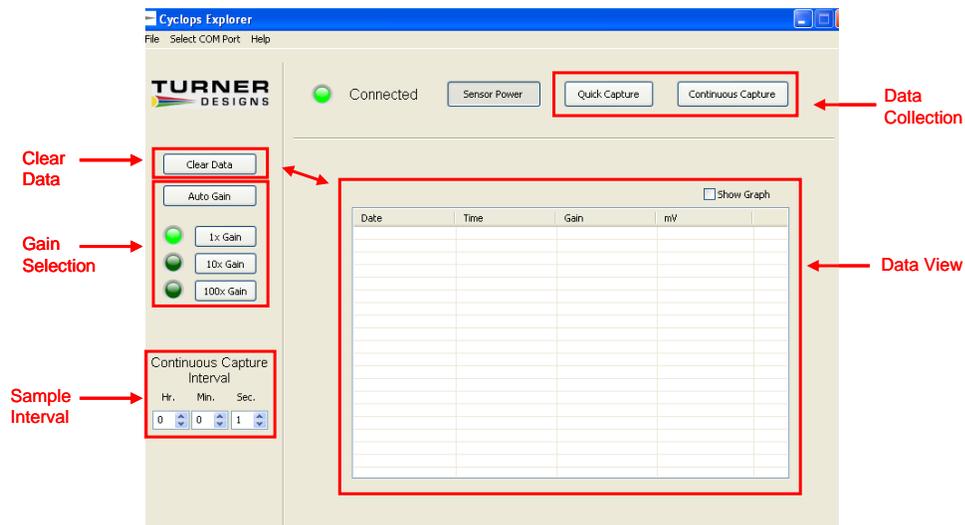


### Gain Selection:
Cyclops sensors can be used to collect data in any of the 3 different gain (range) settings.  Each gain setting has its own range of concentrations.

♦   The 100x gain is the most sensitive gain and is used for very low concentration detection.

♦   The 10x gain is the most appropriate gain to use if you are unsure of what gain to use for your water samples.  This gain has good minimum detection limit and a good detectable range of concentrations.

♦   The 1x gain is the least sensitive gain and is reserved for utilizing the complete range of the instrument.

The "Auto Gain" button can be selected to take advantage of the auto gain function which automatically selects the best gain to be used for the sample being read.

### Sample Interval:
Users can set any sample interval greater than or equal to 1 second for the purpose of continuous sampling.  Once a sample interval is set and the "Continuous Capture" button clicked, samples will be taken and displayed at the set sample interval.
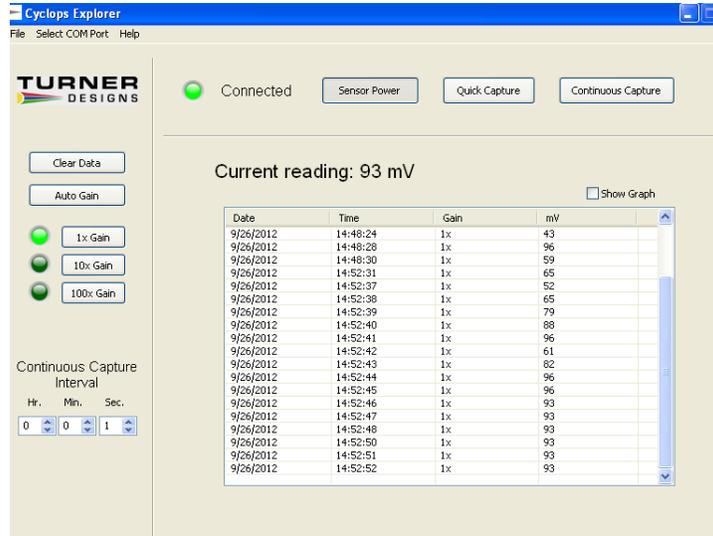
### Data Collection:
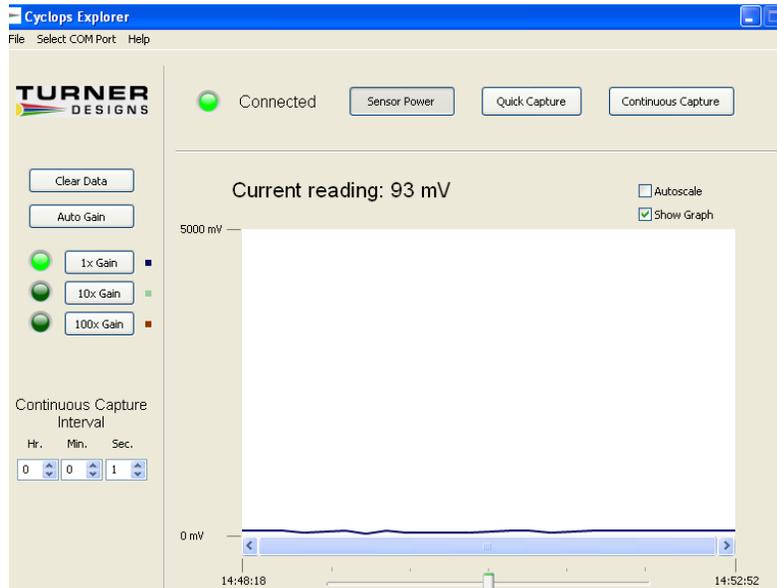There are two ways to collect data from the instrument, Quick Capture or Continuous Capture:

♦   Quick Capture – is used to capture one data point with each click of the "Quick Capture" button.  The sample interval will not affect the quick capture function as each sample is taken instantaneously with the click of the quick capture button.

♦   Continuous Capture – is used to capture data continuously at a given sample interval.  Once the "Continuous Capture" button is clicked, data will be displayed in the Data View section of the screen at the set sample interval.  To stop continuous capture, simply click the button again.

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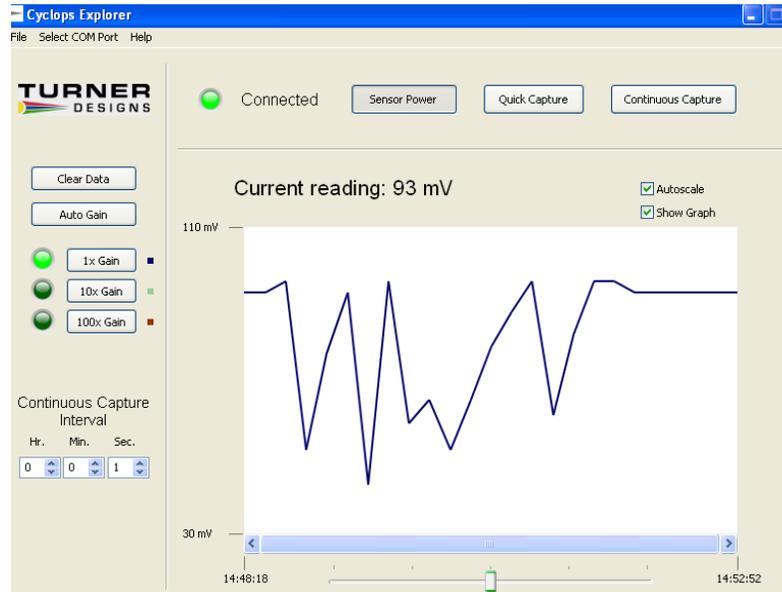
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**Data View:**
Data can be viewed either in tabular or graphical format and can be saved as a .txt file for post analysis.  If the 'show graph' box is unchecked, data will be displayed in tabular format:



If the 'show graph' box is checked, data will be displayed in graphical format:



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When in graphical format, users can click the Autoscale box to automatically scale the readings:



Users may also adjust the time axis using the scroll bar to view any section of the graph.

When data collection ends, you may save the collected data to a .txt file by accessing the "File" pull down menu and clicking on the "Save Collected Data" function. This will open a window asking the user to navigate to a specific folder and name the file that is to be saved. The default folder in which the data will be saved is the My Documents folder.

If users would like to clear data before or after saving the data set, click the "Clear Data" button and all the data displayed on the screen will be deleted.

**NOTE**: **There is no way to retrieve these data once they have been cleared so ensure you intend to clear the data set prior to clicking clear data.**

## Powering Down

To power down the Cyclops instrument, click the "Sensor Power" button and the instrument will stop functioning. Next, unplug the power connection to the Explorer cable. Finally, unplug the Explorer cable from the PC or laptop.

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