

WQ-ORP with WQoSensors Software

Smart Sensors
Powerful Software



TABLE OF CONTENTS

1 *Sensor Operation*..... 4

 1.1 **ORP & Temperature Sensors**..... 4

 1.1.1 **WQ-ORP – ORP & Temperature Sensor**.....4

 1.1.2 **Making ORP Sensor Measurements**5

 1.1.3 **Maintenance and Care**8

 1.1.4 **ORP Sensor Troubleshooting Guide**.....10

2 *Software Operation* 12

 2.1 **Working with Data**..... 12

 2.2 **Data Validation and Review** 15

 2.3 **Changing Software Settings**..... 17

 2.4 **Science Library** 19

 2.5 **Help and Support** 20

 2.6 **Working with Project Files** 21

***Appendix*..... 23**

 Appendix A: **Material Safety Data Sheets** 23

 Appendix B: **Warranty and Service** 23

 Appendix C: **Computer Requirements**..... 24

 Appendix D: **Step-by-Step Driver Installation** 24

What is a WQSensor?

WQSensors offer the latest in smart sensor technology with direct computer interface. An integral USB connector offers a simple, hassle-free connection without meters, batteries, or power supplies - displaying the data in real-time directly onto the PC. Common water quality parameters include: temperature, dissolved oxygen, pH, ORP, NO₃, NH₄, and Cl.

Every sensor ships with WQSensor Software, which offers a simple graphical interface to the smart sensors. The software includes the popular NexSens SCIENCE LIBRARY with an interactive periodic table, unit converter, and other useful science utilities. Download a FREE copy today!

Software Installation

WQSensor Software is distributed on CD-ROM. The setup program starts automatically when the CD is inserted. If the program does not load automatically, you can manually start the setup process by running Setup.exe from the CD ROM drive. We suggest that you accept the default options presented by the WQSensor Software setup program.

Uninstalling WQSensors Software

If you need to uninstall WQSensor Software, click **Settings** in the **Start Menu**. Select **Control Panel**, followed by **Add / Remove Programs**. Follow the step-by-step instructions to remove WQSensor Software and all associated files.

1 Sensor Operation

1.1 ORP & Temperature Sensors

1.1.1 WQ-ORP – ORP & Temperature Sensor

WQSensor probes come ready to go and with most of the accessories you will need. Additionally, you will need calibration solutions and beakers or containers. These items should be located in any lab where WQSensors will be used, or they can be purchased from a local chemical supplier. These supplies may also be purchased from a NexSens Technology dealer:

http://www.nexsens.com/company/where_to_buy.htm

WQ-ORP Sensor

Constructed with impact resistant polycarbonate, gel electrolyte, double junction, and full pH range glass, this WQSensor is ready for thousands of measurements. An integral temperature sensor automatically compensates ORP readings for sample temperature. An internally stored unique ID and GLP file ensures quality data and tracks calibration status.

ORP Package Includes:

- WQ-ORP: ORP & temperature sensor with 6 feet of cable and integral USB connector
- WQ-BOT: WQSensor storage bottle
- WQSensor Software & Knowledge Library CD
- WQSensor Quick Start Guide



WQ-ORP Sensor Specifications

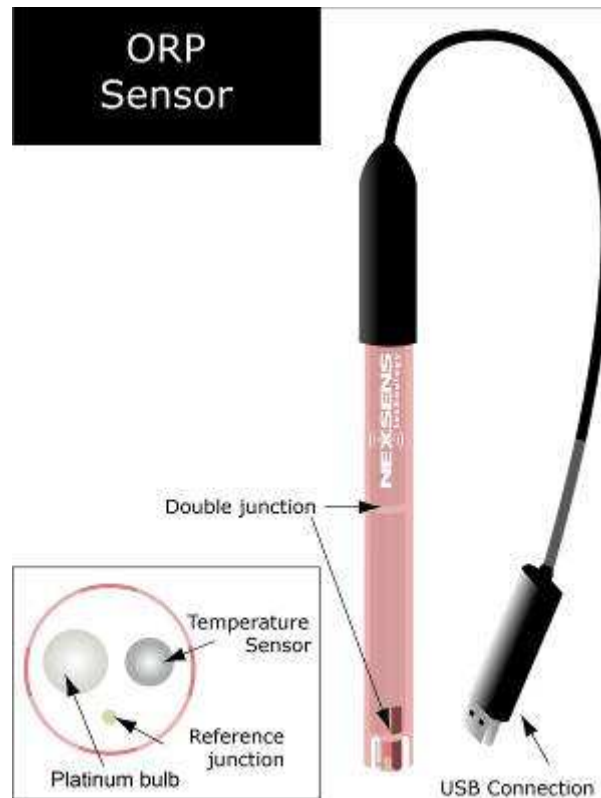
| | |
|----------------------|-----------------|
| ORP Range | -1250 to 1250mV |
| Temperature Range | 0 to 50°C |
| Temperature Accuracy | ± 0.2°C |
| Junction Type | Double Junction |
| Size: | |
| Electrode length | 155 mm |
| Body Diameter | 12 mm |
| Cap Diameter | 16 mm |
| Cable Length | 6 ft. |

1.1.2 Making ORP Sensor Measurements

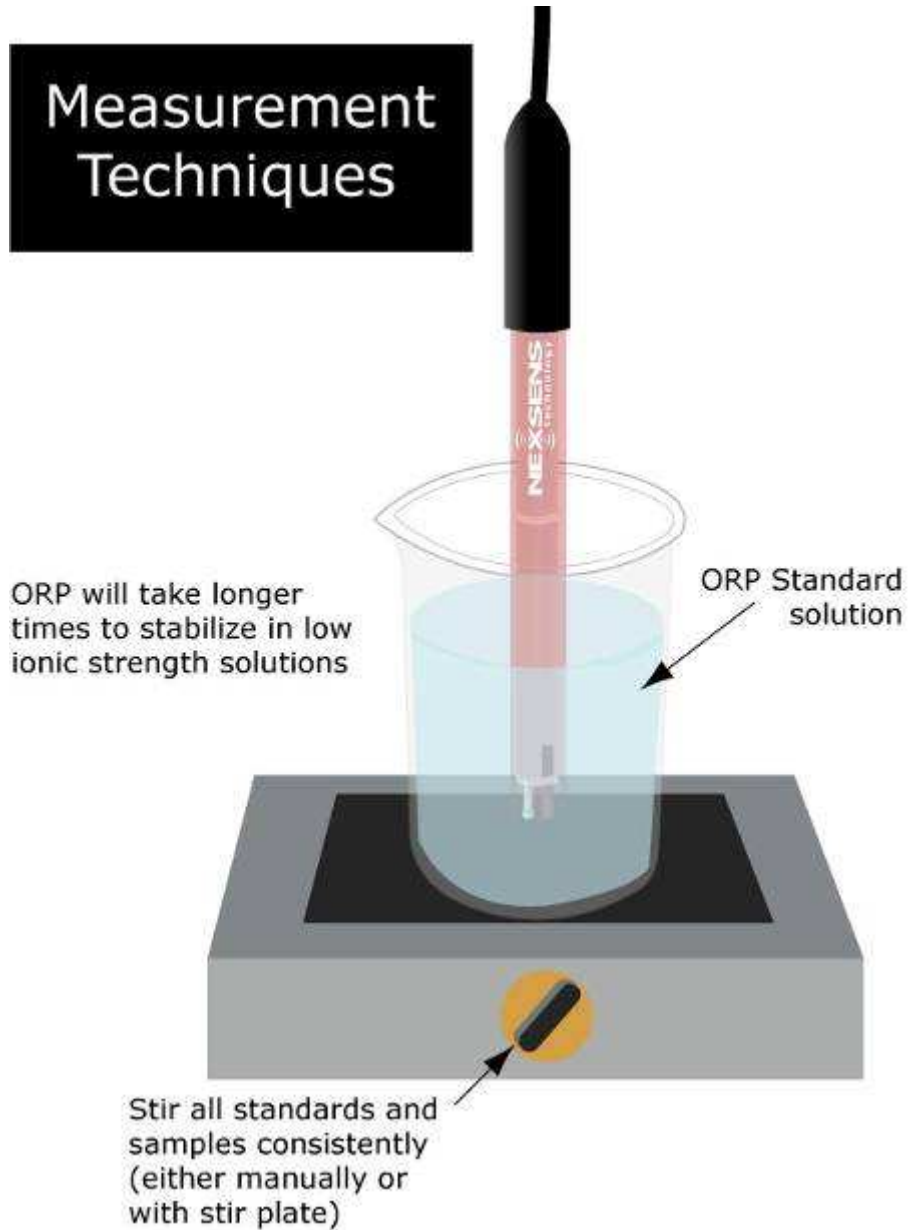
Preparing ORP Sensors for Measurement

1. WQ-ORP sensors are shipped with the ORP bulb kept moist. Prior to using your WQ-ORP sensor for the first time, follow these three steps to condition your electrode:
2. Remove the electrode from the protective storage container. Rinse the electrode tip with distilled or deionized water. (Note: Keep the protective cap or boot for use later during storage).
3. Shake the electrode down (like a thermometer) to eliminate any air bubbles inside the electrode.
4. Place the electrode tip in a beaker containing 4.0 pH buffer or 4.0 M KCl. Soak for 20 minutes.
5. After conditioning the electrode for 20 minutes, rinse the electrode with distilled or deionized water. The electrode is now ready for calibration and to measure ORP.

Note: When handling ORP electrodes, rinse the electrodes with distilled water before and after measuring a sample. Blot the end of the electrode with lint-free cloth to remove excess water. Never wipe the electrode to remove excess water. Wiping can create static charges that interfere with correct measurements.



Making ORP Measurements



Calibrating ORP Sensors

The WQ-ORP sensor is calibrated with a 1-point calibration in a standard solution with a known ORP, such as Zobell solution, Light's solution, or quinhydrone-saturated pH buffers. The following table can be used when calibrating with Zobell solution, the NexSens-recommended standard.

| Temperature in °C | Zobell Solution in millivolts |
|--------------------------|--------------------------------------|
| -5 | 270.0 |
| 0 | 263.5 |
| 5 | 257.0 |
| 10 | 250.5 |
| 15 | 244.0 |
| 20 | 237.5 |
| 25 | 231.0 |
| 30 | 224.5 |
| 35 | 218.0 |
| 40 | 211.5 |
| 45 | 205.0 |
| 50 | 198.5 |

1. Connect the WQ-ORP sensor to the PC via the USB connector.
2. Rinse electrode with distilled or de-ionized water, blot dry, and then place in ORP standard. Current readings will appear on the screen and may take several minutes to stabilize.
3. When readings stabilize, press Calibrate and click on the ORP-mV reading. Enter the value of the ORP standard at the corresponding solution temperature. Then press the calibrate button again.

The calibration process is now complete. Generally, calibration for the ORP probe is not required very frequently. The need to calibrate can be determined by placing the probe in a standard solution. If the probe reads more than +/- 20 mV from the standard value, recalibration is recommended.

1.1.3 Maintenance and Care

Oxidation-Reduction Potential (ORP) provides an indication of a solution's ability to oxidize or reduce another material. ORP is often also called "Redox". ORP is a useful water quality parameter, particularly for processes such as water disinfection, odor control processes, and dechlorination processes prior to industrial or municipal discharge.

Oxidation and Reduction Reviewed

Oxidation is the loss of an electron. Reduction is the addition of an electron. There can be no oxidation without a simultaneous reduction. The electron lost from the oxidized element is gained by another element, which is reduced. The substance capable of donating an electron is called the reducing agent. The substance capable of accepting an electron is called the oxidizing agent. The most well known oxidation-reduction reaction is the formation of rust. Oxygen reacts with iron to form iron oxide (a.k.a. rust). During this process, iron is oxidized (loses an electron), and oxygen is reduced (gains an electron).

Background

The higher the ORP value, the more potential a solution has to oxidize (steal electrons from) substances in solution. The lower the ORP value, the more potential a solution has to reduce (donate electrons to) other substances in solution. For example, chlorine is a strong oxidizer. Adding chlorine to a swimming pool will raise the ORP value of the water, and increase the water's ability to destroy bacteria and microbes by oxidizing them (stealing electrons from them and altering their chemical make-up). ORP levels of 650-700 mV are generally recognized as strong enough to kill bacteria and sanitize water.

The addition of an oxidizer (chemical that donates electrons) will raise the ORP value. The addition of a reducer (chemical that accepts electrons) will lower the ORP value. Examples of oxidizers include chlorine, fluorine, ozone, hydrogen peroxide. Examples of reductants include sodium bisulfite and sulfur dioxide.

Electrode Operation

An ORP probe measures the oxidizing/reducing capability of a solution by measuring the electron activity. An ORP reading is non-specific to a particular redox reaction in solution. It is a measure of the ratio of the oxidized to reduced forms of all chemical species in solution. Because the chemical composition of a solution is typically unknown, ORP represents a non-specific measurement.

A two-electrode system is used to make an ORP measurement. In the WQ-ORP probe, these electrodes are combined into one probe body. The WQ-ORP consists of a relatively inert platinum electrode and a reference electrode. ORP is determined by the difference in potential between these two electrodes.

The platinum electrode has a low resistance and will easily give up electrons to an oxidant or accept electrons from a reductant. The electrode will continue to accept or give up electrons until it develops a potential, due to a build-up of charge from the loss or gain of electrons. This charge is equal to the ORP of solution. Nobel metals such as Platinum, Silver or Gold are used because they can sense the electron transfer but are not consumed in the reactions.

Sensor Storage

Short Term (over night or the weekend)

Between measurements, store the ORP electrode in a beaker containing a solution with a similar ionic composition to the samples.

Long Term Storage

When storing for longer periods, store the ORP electrode in the storage bottle which came with the electrode. The storage bottle should contain either commercially prepared storage solution, or a 1:1 solution of pH 4 buffer and 4M KCl. Ensure that the foam or cotton ball in the storage bottle is thoroughly wetted with storage solution to maintain a moist environment around the ORP bulb and junction.

Do not store the electrode in distilled or deionized water – this will cause ions to leach out of the glass bulb and render your sensor useless. After storage, you may notice white KCl crystals deposited on your electrode. Such salt formation will not interfere with measurements. Simply rinse the electrode with distilled water to remove the crystals and blot dry before use.

Problems may arise due to errors with electrode function, standards, or due to the limitations of ORP measurements. Follow the steps below to isolate the source of the problem

Cleaning and Reconditioning

As the WQ-ORP sensor ages, it may exhibit sluggish or noisy readings. Symptoms that signal the need for cleaning/reconditioning include:

- Slow response ORP readings in standard solutions
- Erroneous ORP readings in Zobell solution (outside the range 231 +/- 40 mV at 25° C)

The following procedures may improve performance.

Reference Electrode Problems:

A blocked reference junction may be a cause of slow response, off-scale and noisy readings.

Soak the WQ-ORP sensor in a beaker of warm water (50°C) for 15 minutes to remove dried gel or salts from the junction. Then place in a beaker of warm 4M KCl solution. Set aside until it returns to room temperature. The gel should be moist and the junction flow should be restored.

Glass Bulb Problems:

The glass bulb of the ORP probe will get dirty over time. We suggest the following solutions for cleaning:

- Inorganic Deposits: Immerse electrode tip in 0.1 M HCl for 10 minutes. Wash the tip with distilled water.
- Organic Oil and Grease Films: Wash electrode tip in a liquid detergent and water.

1.1.4 ORP Sensor Troubleshooting Guide

The slope and response characteristics of the ORP sensor can be tested in quinhydrone-saturated pH 4 and 7 solution. A properly functioning ORP electrode should exhibit a difference of 90 ± 40 mV when submersed in the two solutions of quinhydrone-saturated pH 4 and pH 7 solutions.

Prepare two beakers, one with pH 4 solution and the other with pH 7 solution. Add a "pinch" of quinhydrone crystals to each of the buffers while stirring gently until saturated (no more crystals dissolve). Then stir for 30 seconds to finish preparation of the standards.

Rinse the electrode with distilled or de-ionized water, blot dry, and then place the electrode into a beaker containing quinhydrone saturated pH 7 buffer. Stir gently, and wait for readings to stabilize.

When the readings stabilize record the mV value. The mV reading should be 85 ± 20 mV.

Rinse electrode with distilled or de-ionized water, blot dry and place in the quinhydrone-saturated pH 4 buffer. Stir gently and wait for the readings to stabilize.

When readings stabilize, record mV value. The reading should be 175 ± 20 from the reading in the quinhydrone-saturated pH 7 solution.

If the difference in potentials is not 90 ± 40 mV, follow the instructions in the "Cleaning and Reconditioning" section. Please note that the quinhydrone-saturated pH standard should be used within a few hours of preparation.

If electrode performance is still not restored, the sensor may need to be returned to the NexSens Service Department for assessment.

Standards

The quality of results depends greatly upon the quality of the standards. Use fresh standards when problems arise; it could save hours of troubleshooting. Errors may result from the contamination or degradation of prepared standards.

Quinhydrone-saturated pH 4 and pH 7 solutions should be prepared fresh and used within a few hours.

Zobell solution comes in powdered form and is mixed with distilled or deionized water. After mixing the solution, it should be refrigerated and used within 6 months.

Keep all standards tightly covered when not in use.

Measurement Technique and ORP Limitations

ORP is an important chemistry parameter and provides useful information on the oxidizing or reducing nature of water. However, ORP is a non-specific measurement and ORP readings of the same sample may vary as much as 50-100mV depending on such factors as ionic composition, temperature, pH, and sensor condition. Generally, only deviations greater than 100 mV are suspect. See the "Maintenance and Care" section for more information on factors that influence ORP measurements.

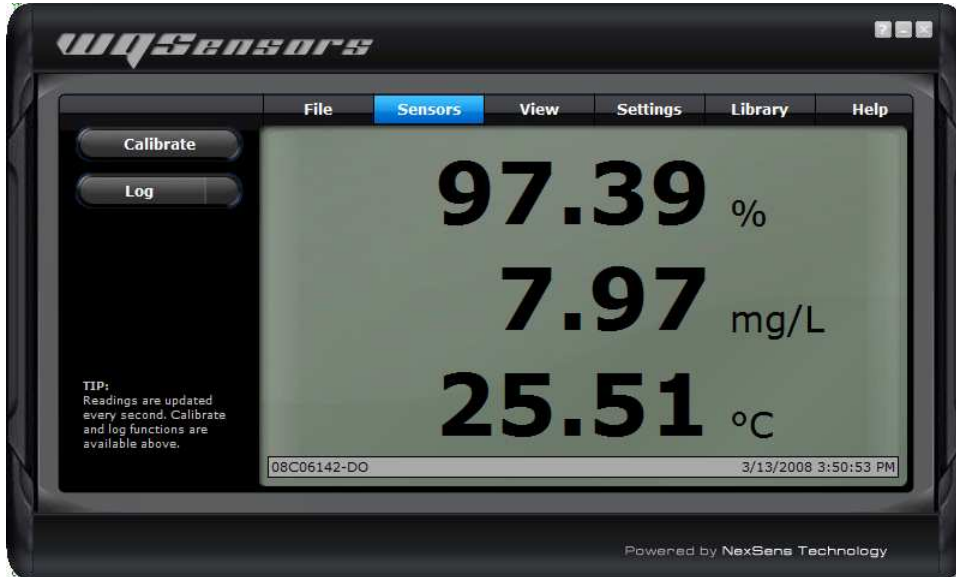
Differences in the sensor condition may further exacerbate the non-specificity of ORP measurements. Contaminants on the surface of the platinum electrodes, such as hard water deposits, oil/grease, or other organic matter, will slow response and cause a long time for equilibration. Cleaning the probe following the instructions in "Cleaning and Reconditioning" section will help prevent interferences due to fouled probe condition.

ORP readings typically stabilize much more rapidly in high ionic strength solutions, such as ORP standards, than in more dilute environmental water. Often, in clean environmental waters, only low concentrations of a few redox-active species are present, and readings may take many hours to stabilize. In some cases, the concentration of redox-active species may be so low that the redox influence of the species is undetectable. Under these conditions, the ORP readings will have questionable meaning and may show great variation. Any differences in sensor condition, such as deposits on the platinum electrode, will further exacerbate these variable readings.

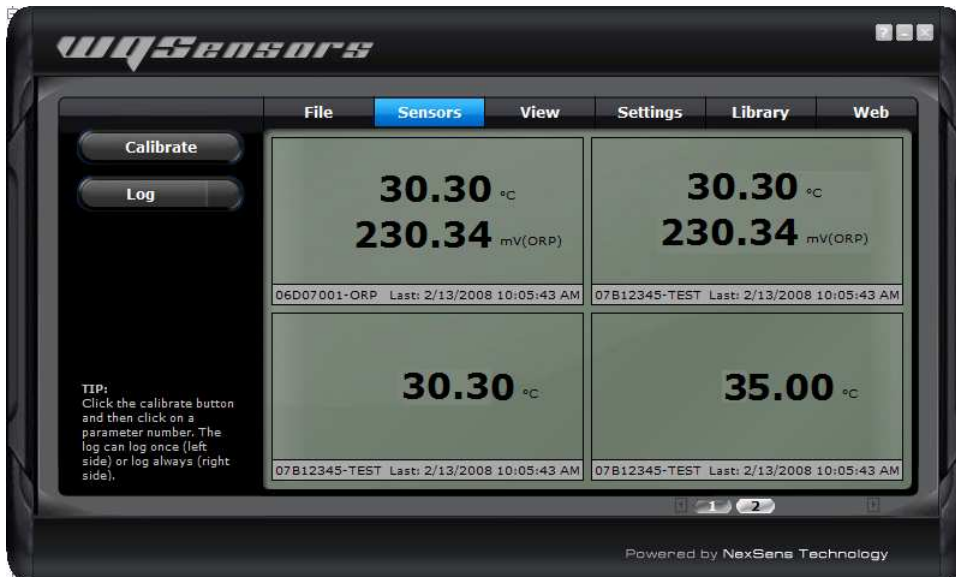
2 Software Operation

2.1 Working with Data

After running WQSensors software and connecting a WQSensor, real time data can be viewed in the **Sensors** menu. When a single sensor is connected it will be displayed as shown. The serial number of the sensor, as well as the time of last obtained reading, is displayed on the bottom of the screen.



If multiple sensors are connected, they will be displayed in a tabular format as shown. Numerical buttons on the bottom of the screen allow scrolling through each panel of four sensors.



Logging Data

Data can be logged either as single measurements or as a stream of measurements over user-specified time intervals. This interval can be specified by clicking the **Interval** button in the **Settings** menu. Logged data can be viewed by clicking the **Report** button in the **View** menu.

To log a single data point, click on the left hand side of the **Log** button. The left side of the button will turn blue and a short animation with the letter **L** will display on the bottom left hand corner of the screen.



To start logging continuous measurements at the user defined interval, click on the right hand side of the **Log** button. The entire button will turn blue and at the log interval, a short animation with the letter **L** will display on the bottom left hand corner of the screen.



Calibrating Sensor Readings

To calibrate Sensor Readings:

1. Click on the **Calibrate** button
2. Select the parameter reading to calibrate as shown below
3. Enter the calibrated value
4. Click the **Calibrate** button again to complete the change

A short animation with the letter **C** will display on the bottom left hand corner of the screen. Temperature and mV values cannot be calibrated (except for calibration of ORP). This calibration is stored on the sensor, which means that the sensor can be calibrated on one computer and still returned calibrated results no matter which other computers it is used on.

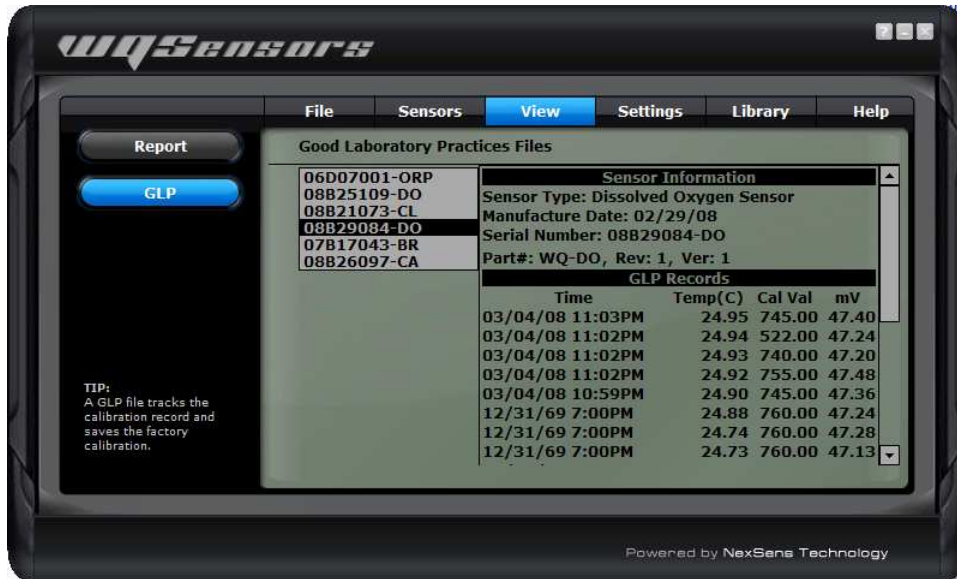
Refer to the calibration guidelines in the sensor sections earlier in this manual for information on when and what values to calibrate with.



2.2 Data Validation and Review

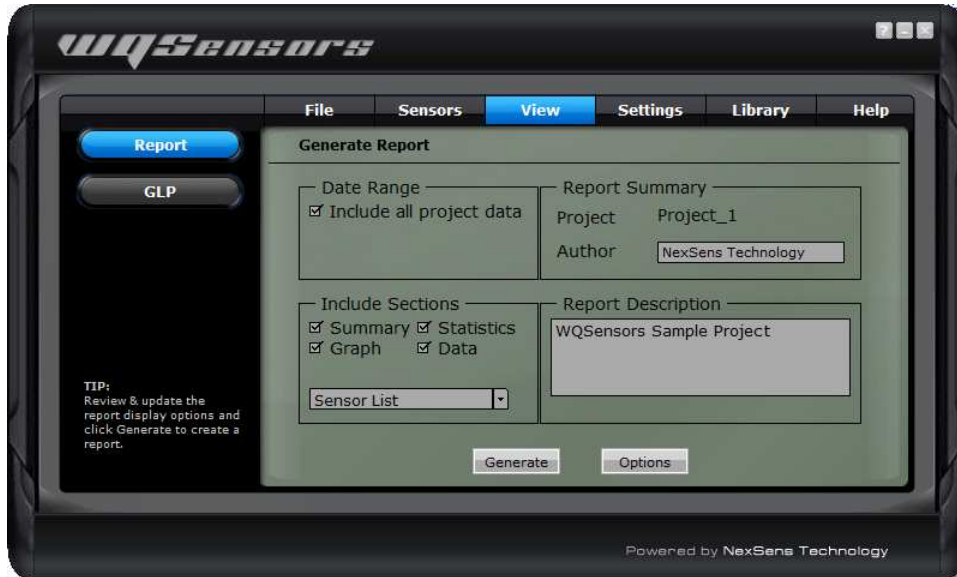
Good Laboratory Practice Files

WQSensors software automatically records every calibration to a Good Laboratory Practice (GLP) file. The GLP file will include the time, data, sample readings, and diagnostic data for each calibration. This file is stored on the sensor and will carry over from PC to PC.

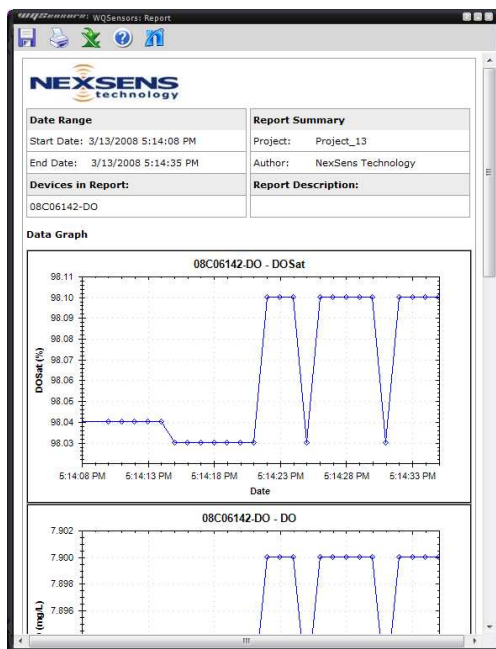


Data Reports

Data is stored inside WQ Sensors software project files and can be viewed in graphical, statistical, and tabular formats. To view this data click the **View** button, then click the **Report** button. Select the desired report options and then click **Generate**.



From the report tool bar data can be saved, printed, or exported to Microsoft Excel ©.



| Sample | Date/Time | 08C06142-DO | | |
|--------|----------------------|-------------|------|-------------|
| | | DOSat | DO | Temperature |
| | | % | mg/L | C |
| 1 | 3/13/2008 5:14:08 PM | 98.04 | 7.89 | 26.42 |
| 2 | 3/13/2008 5:14:10 PM | 98.04 | 7.89 | 26.42 |
| 3 | 3/13/2008 5:14:11 PM | 98.04 | 7.89 | 26.42 |
| 4 | 3/13/2008 5:14:12 PM | 98.04 | 7.89 | 26.42 |
| 5 | 3/13/2008 5:14:13 PM | 98.04 | 7.89 | 26.43 |
| 6 | 3/13/2008 5:14:14 PM | 98.04 | 7.89 | 26.43 |
| 7 | 3/13/2008 5:14:15 PM | 98.03 | 7.89 | 26.43 |
| 8 | 3/13/2008 5:14:16 PM | 98.03 | 7.89 | 26.43 |
| 9 | 3/13/2008 5:14:17 PM | 98.03 | 7.89 | 26.43 |
| 10 | 3/13/2008 5:14:18 PM | 98.03 | 7.89 | 26.43 |
| 11 | 3/13/2008 5:14:19 PM | 98.03 | 7.89 | 26.43 |
| 12 | 3/13/2008 5:14:20 PM | 98.03 | 7.89 | 26.43 |
| 13 | 3/13/2008 5:14:21 PM | 98.03 | 7.89 | 26.43 |
| 14 | 3/13/2008 5:14:22 PM | 98.1 | 7.9 | 26.43 |
| 15 | 3/13/2008 5:14:23 PM | 98.1 | 7.9 | 26.43 |
| 16 | 3/13/2008 5:14:24 PM | 98.1 | 7.9 | 26.43 |
| 17 | 3/13/2008 5:14:25 PM | 98.03 | 7.89 | 26.43 |
| 18 | 3/13/2008 5:14:26 PM | 98.1 | 7.9 | 26.43 |
| 19 | 3/13/2008 5:14:27 PM | 98.1 | 7.9 | 26.43 |
| 20 | 3/13/2008 5:14:28 PM | 98.1 | 7.9 | 26.43 |
| 21 | 3/13/2008 5:14:29 PM | 98.1 | 7.9 | 26.43 |
| 22 | 3/13/2008 5:14:30 PM | 98.1 | 7.9 | 26.43 |
| 23 | 3/13/2008 5:14:31 PM | 98.03 | 7.89 | 26.43 |
| 24 | 3/13/2008 5:14:32 PM | 98.1 | 7.9 | 26.43 |
| 25 | 3/13/2008 5:14:33 PM | 98.1 | 7.9 | 26.43 |
| 26 | 3/13/2008 5:14:34 PM | 98.1 | 7.9 | 26.43 |
| 27 | 3/13/2008 5:14:35 PM | 98.1 | 7.9 | 26.43 |
| 28 | 3/13/2008 5:14:36 PM | 98.1 | 7.9 | 26.43 |
| 29 | 3/13/2008 5:14:37 PM | 98.1 | 7.9 | 26.43 |
| 30 | 3/13/2008 5:14:38 PM | 98.1 | 7.9 | 26.43 |
| 31 | 3/13/2008 5:14:39 PM | 98.1 | 7.9 | 26.43 |

2.3 Changing Software Settings

Customizable options are available in WQSensors software in the Application Settings menu.

Show introduction animation?

This option specifies whether to display the opening animation that plays each time WQSensors software is started. Un-checking this box will disable the software from playing the animation each time.

Remember last menu location?

This option specifies whether the WQSensors software should reload the last menu opened each time the WQSensors software starts. Un-checking this box will make the **Sensors** menu the default page when starting WQSensors software. This feature is useful if a specific **Library** menu table or formula is used often.

Convert Celsius to Fahrenheit?

This option specifies whether to display temperature values in Celsius or Fahrenheit. Un-checking this box will display all temperature readings in degrees Fahrenheit.

Show mV values?

This option specifies whether the **Sensors** menu should display the mV readings from the sensors. Un-checking this box will disable the display of mV values. mV readings are diagnostic information and are not required to take measurements. They are useful, however, in determining sensor performance and calibration.



Changing Log Interval

The intervals at which the sensor logs data can be changed in the Software Logging Interval menu. Clicking the **Interval** button on the **Settings** menu displays the current log interval in seconds. To change the interval, enter a new value and click **Apply**.



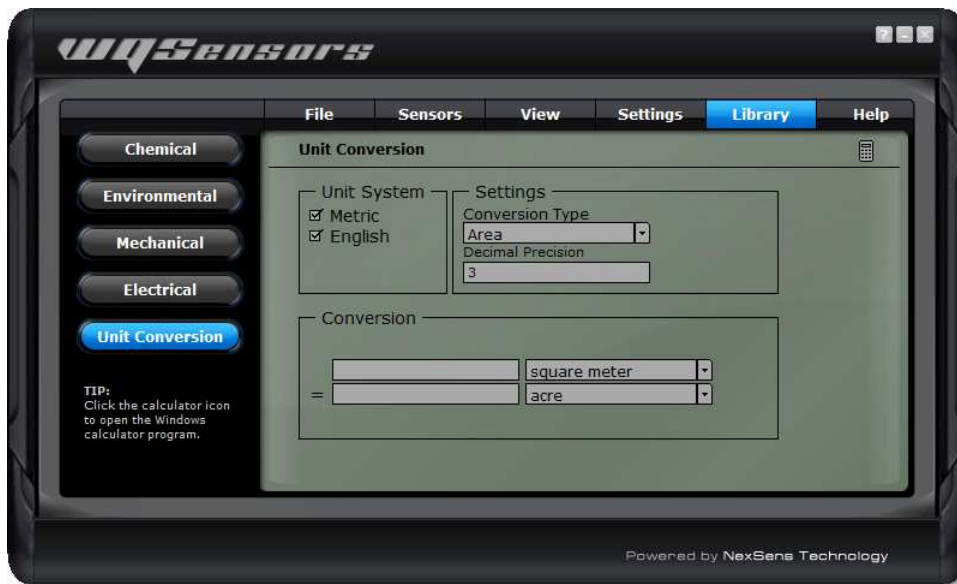
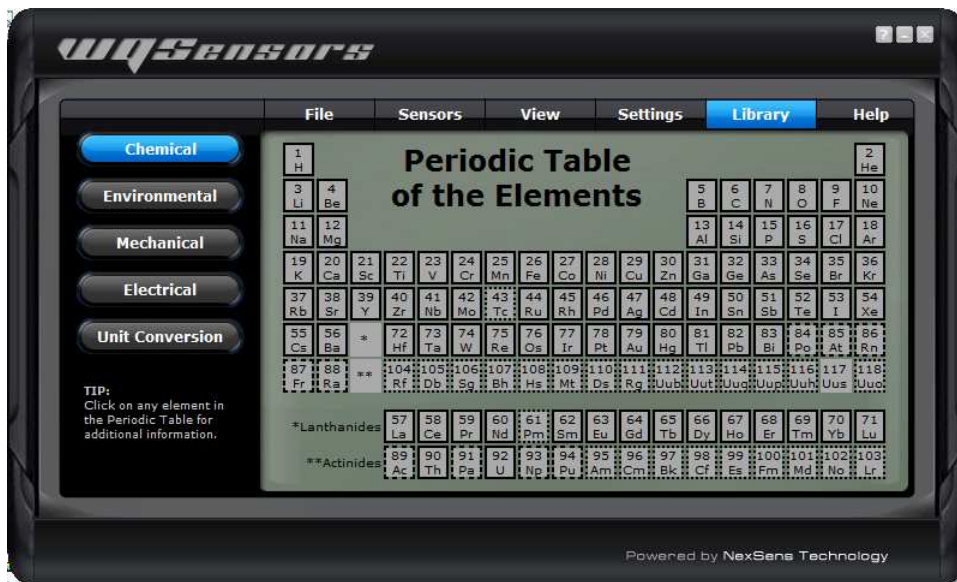
Please see the Logging Data section for starting and stopping this feature.

2.4 Science Library

The WQSensor software **Library** menu is a desktop reference for water, wastewater, and environmental professionals. It's packed with tables, calculations, and many conversions.

Features include:

- Converting units of measure
- Calculating flow over a weir
- Determining the inside diameter of PVC pipe
- Finding the ammonia tolerance level for rainbow trout
- Determining the atomic weight of bromine
- Finding the concentrations of elements in sea water
- And much more...



2.5 Help and Support

WQSensors software integrates the internet into part of its functionality. Software updates, technical support, and other information can be obtained in the **Help** menu.



Technical questions or comments

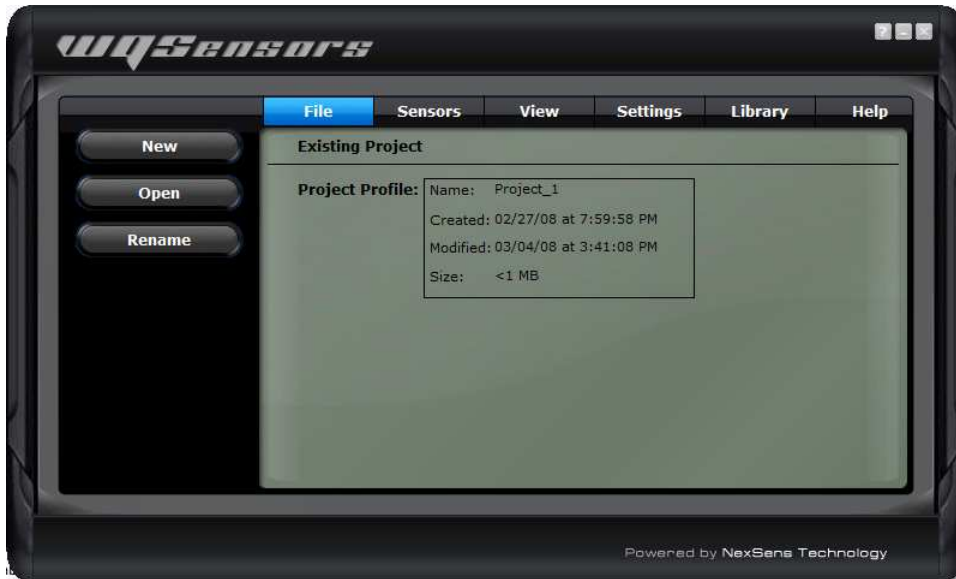
NexSens technical staff can be reached right inside of the program. Click on the **Help** button in the **Help** menu to send an email directly to NexSens technical support. Be sure to include a name and email address that they can contact you with. If you would prefer to be contacted by phone, include that in the message along with your phone number.



Note: An internet connection is not required to run WQSensors software.

2.6 Working with Project Files

When WQSensors software first runs, it defaults to **Project_1**. This is simply a default name for the default project file. Each project file contains information about every sensor that was connected to the computer while that file was open, as well as any data that was collected during that time as well.



Creating new project files

To create a new project, for a specific experiment or study, click the **New** button in the **File** menu and enter a project name. Click **OK** when finished.



Open an existing project

To open a previously created project, select **Open** from the **File** menu. Select the project to open and click **OK**. WQSensors software will begin using that project file as the current project.



Renaming project files

To rename the current project, select **Rename** from the **File** menu. Enter a new name and click **OK**.

To rename projects, other than the current one, simply select **Open** and select the project to be renamed from the list of existing projects. This project can then be renamed on this tab.



Appendix

Appendix A: Material Safety Data Sheets

Material Safety Data Sheets can be found at: <http://www.nexsens.com/support/msds.htm>

Appendix B: Warranty and Service

NexSens Technology, Inc. warrants WQSensors against defects in materials or workmanship for a period of 6 months (extended warranties up to 2 years are available for purchase) from the date of delivery to the original customer. This warranty is limited to the replacement or repair of such defects, without charge, when the instrument is returned to NexSens Technology, Inc. Damage due to accidents, misuse, tampering, lack of reasonable care, loss of parts, failure to perform prescribed maintenance, or accidents of nature are not covered. This warranty excludes all other warranties, express or implied, and is limited to a value not exceeding the purchase price of the instrument.

Limitation of Warranty

This warranty is not applicable to any NexSens Technology, Inc. product damage or failure caused by (i) failure to install, operate or use the product in accordance with NexSens Technology, Inc. written instructions, (ii) abuse or misuse of the product, (iii) failure to maintain the product in accordance with NexSens Technology, Inc. written instructions, (iv) any improper repairs to the product, (v) use of defective or improper components or parts in servicing or repairing the product, (vi) modification of the product in any way not expressly authorized by NexSens Technology, Inc., or (vii) performance issues such as loss of slope and speed of response. Long-term sensor performance is highly dependent on proper care and storage, which is the responsibility of the end user.

Warning: NexSens Technology, Inc. products are not authorized for use as critical components in any life support system where failure of the product is likely to affect its safety or effectiveness.

Authorized U.S. Service Centers

– Corporate Headquarters –
NexSens Technology, Inc.
1415 Research Park Drive
Dayton, Ohio 45432

– Phone: (937) 426-2703
– Fax: (937) 426-1125
– E-Mail: support@nexsens.com

Appendix C: Computer Requirements

WQSensor Software requires the following minimum system configuration:

- Pentium class PC
- 64 MB RAM
- 100 MB hard drive
- 2MB video card
- CD-ROM drive for Software installation
- Adobe Flash
- Windows 2000 (SP1 or higher) or Windows XP

Appendix D: Step-by-Step Driver Installation

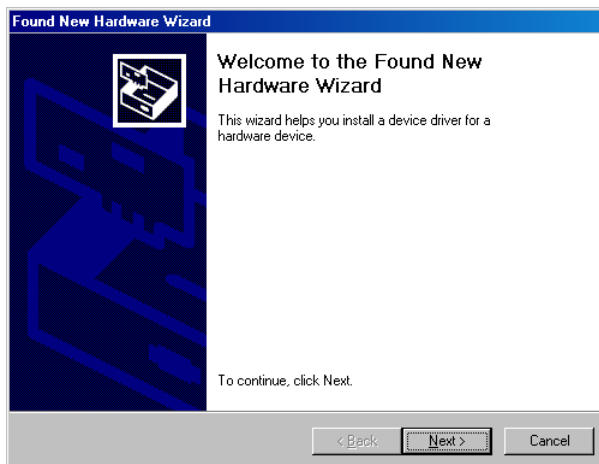
After installation of the WQSensor Software, USB communicate with the sensor will be enabled. When the adapter is plugged in for the first time, Windows will automatically recognize it and start the **Found New Hardware** wizard. See the following sections for details.

Installation for Windows 2000

When the USB adapter is plugged in for the first time, Windows will detect and start the Found New Hardware Wizard:



1. Click **Next** when the Found New Hardware Wizard dialog box appears.

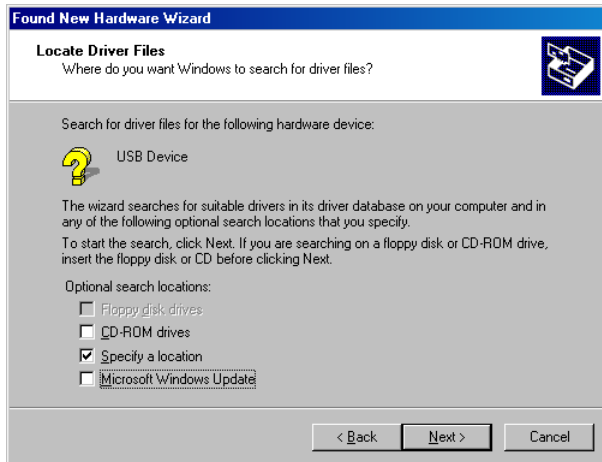


2. Check the "Search for suitable driver for my device" option. Click **Next** to continue.

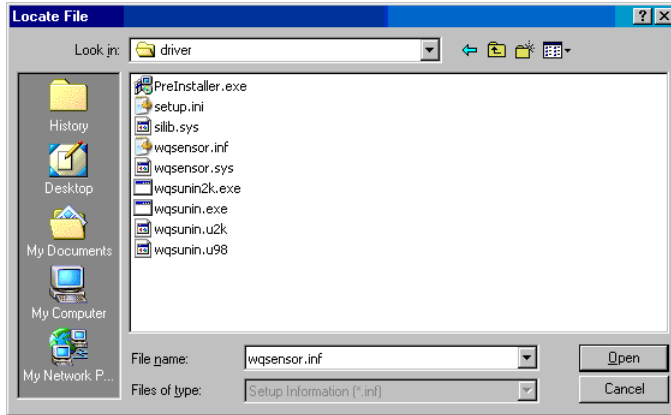


3a. If the **WQSensor installation CD** is in the CD-ROM drive, place a check mark in the "CD-Rom drives" option and click **Next**. This is the recommended method, if the WQSensor CD is available. Windows will scan the CD and automatically install the driver.

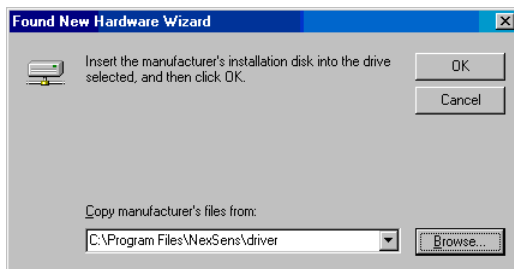
3b. If the WQSensor software is unavailable or the software has been downloaded from the internet. Check "Specify a location" and click **Next**.



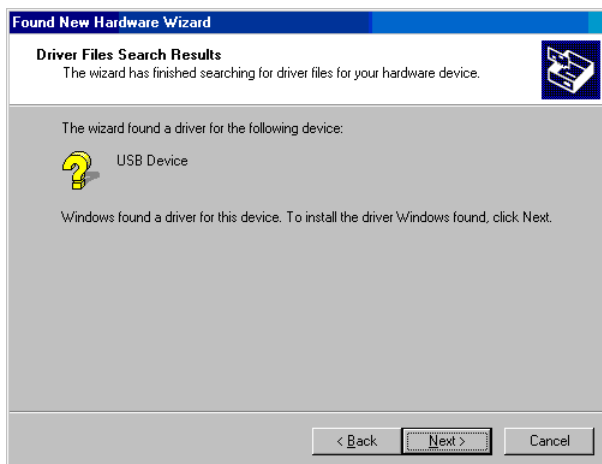
Click **Browse** and go to the location of the driver. By default the driver is located in "C:\Program Files\NexSens\WQSensor\Driver\wqsensor.inf". Click **Open**.



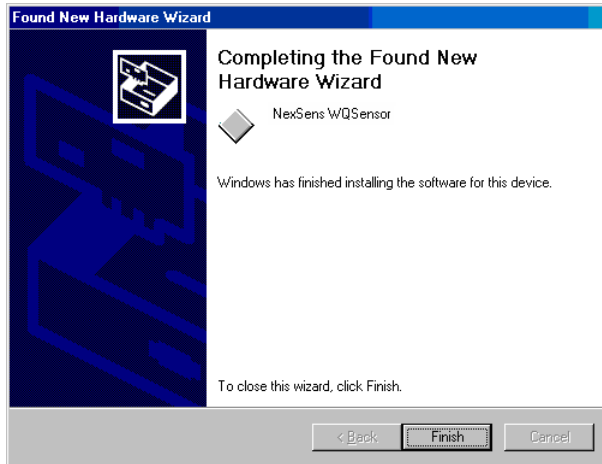
Click **OK** to continue.



4. Once Windows has successfully found the driver, click **Next**.



5. Click **Finish** in the following window. Make sure that the driver has been successfully installed.



Note: The above steps only need to be completed successfully once.

Installation for Windows XP

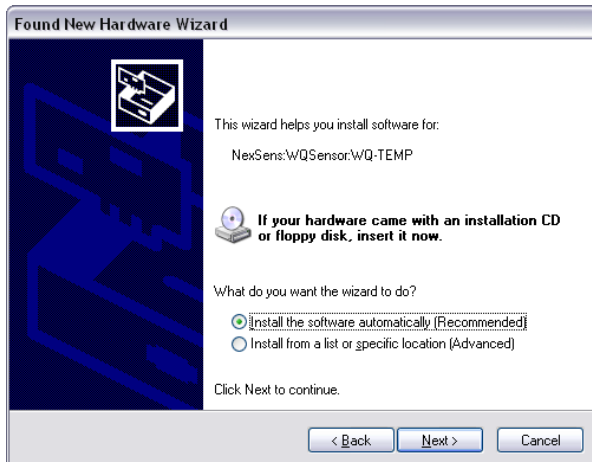
When the USB adapter is plugged in for the first time, Windows will detect and start the Found New Hardware Wizard:



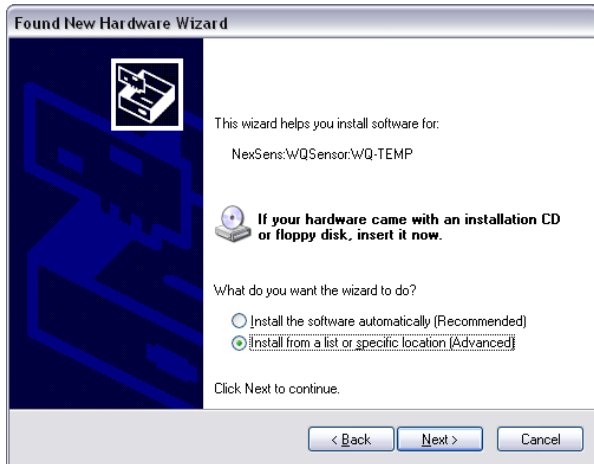
1. Select **No, not this time** and click **Next**, when the Found New Hardware Wizard appears.



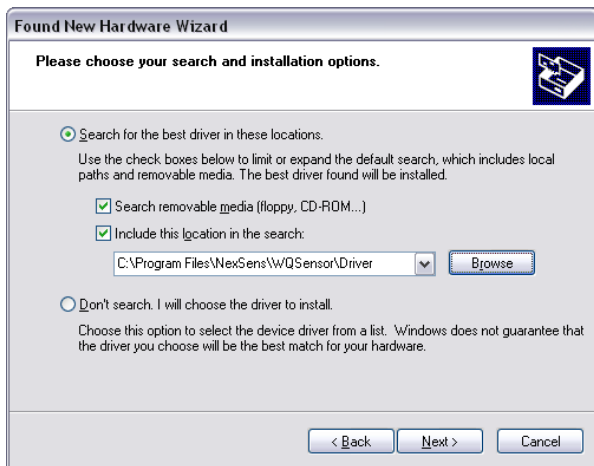
2a. If the **WQSensor installation CD** is in the CD-ROM drive then click the **Install the Software automatically** option and click **Next**. This is the recommended method, if the WQSensor CD is available. Windows will scan the CD and automatically install the driver.



2b. If the WQSensor software is unavailable or the software has been downloaded from the internet. Check "Specify a location" and click **Next**.



Click **Browse** and go to the location of the driver. By default the driver is located in "C:\Program Files\NexSens\WQSensor\Driver\wqsensor.inf".



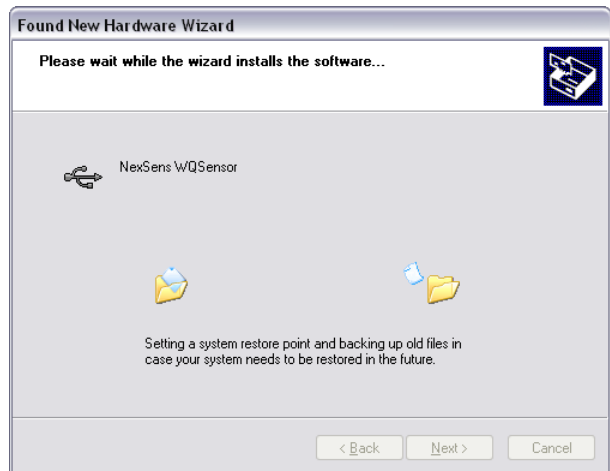
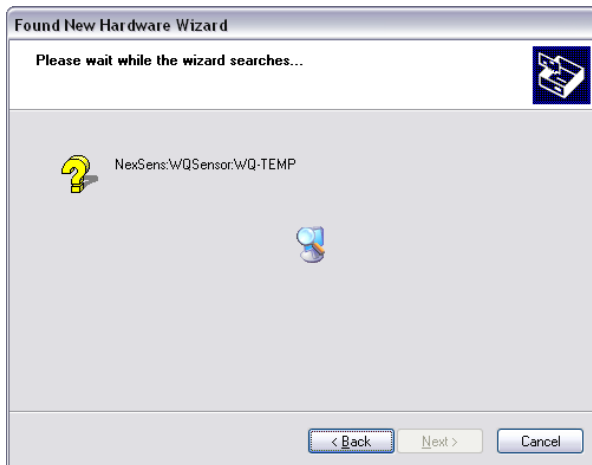
Click **Ok**



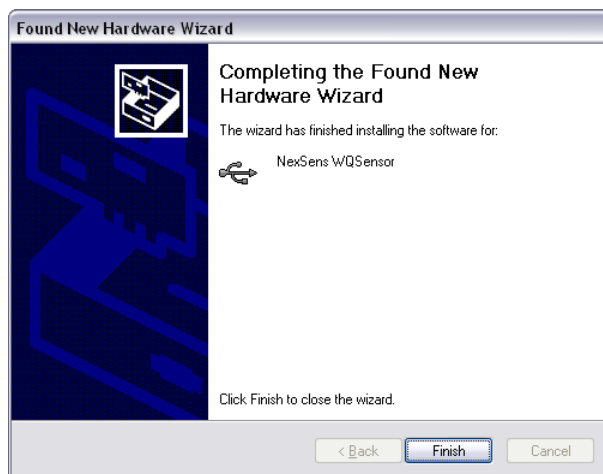
3. If the following dialog box appears, click **Continue Anyway**.



4. Windows will search for the driver.

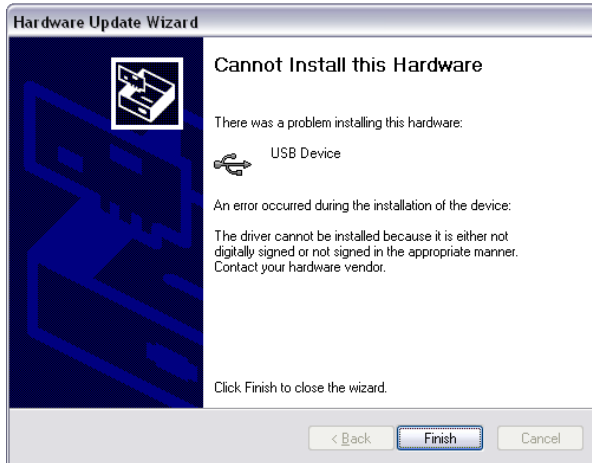


Make sure that the driver has been successfully installed. If it has been, click **Finish**.



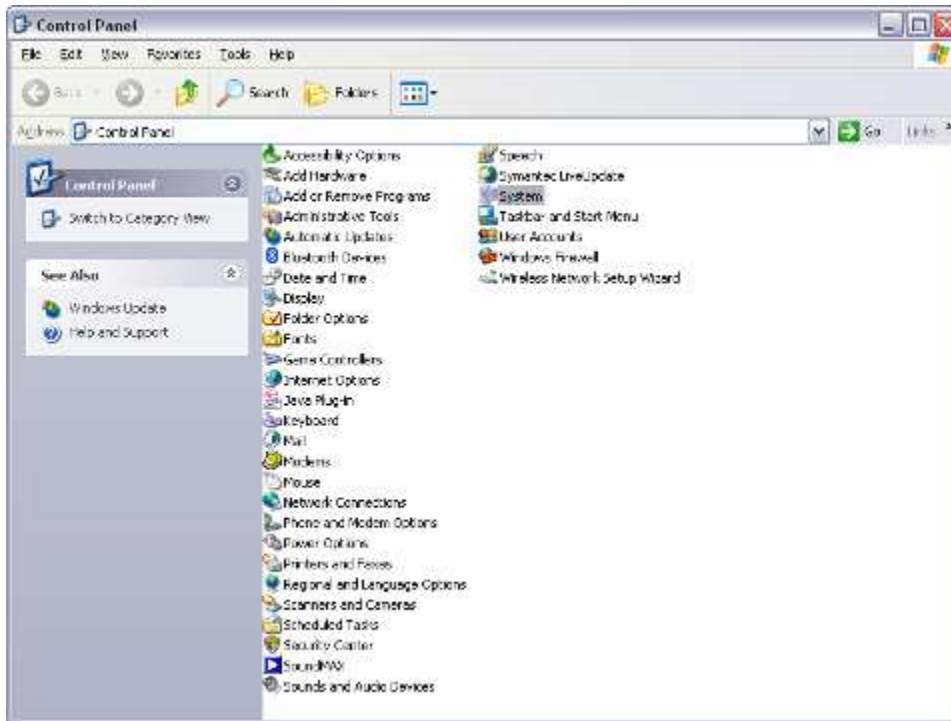
Note: The above steps only need to be completed successfully once.

If for any reason the following window appears:



The driver will need to be reinstalled. Typically Windows will not redisplay the Found New Hardware wizard automatically again. Therefore Windows Device Manager will have to be used.

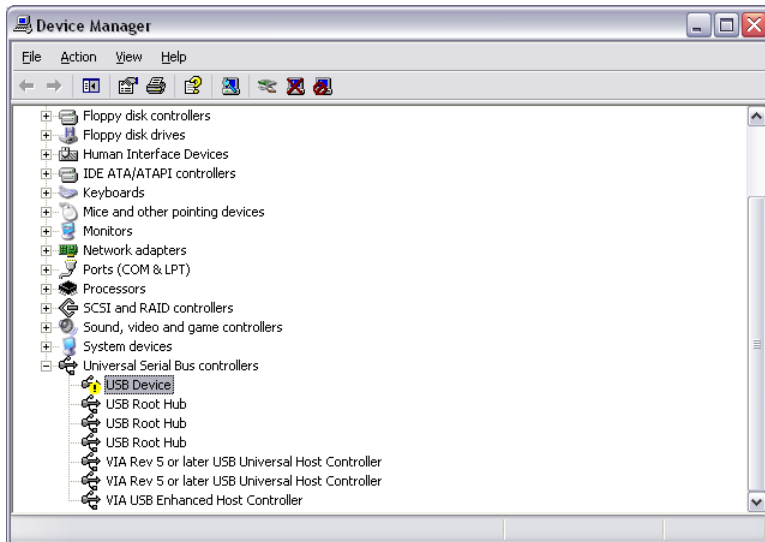
The Device Manager can be accessed by going to the **Start** menu and clicking on **Control Panel**. Click on the file labeled **System**.



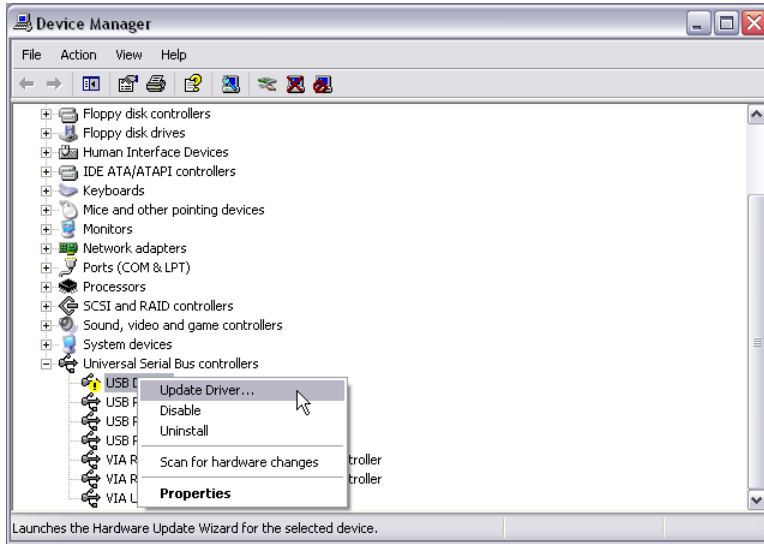
The **System Properties** dialog box will appear. Go to the **Hardware** tab and click **Device Manager**.



You should see a device labeled **USB Device** that has a yellow icon by its name.



Right click on the device and select **Update Driver**. This will restart the Found New Hardware Wizard. Go back to step one and follow to install the driver.



If you need further assistance call a NexSens Support Representative at (937)-426-2151 or email us at info@NexSens.com.

Installation for Windows Vista

In Windows Vista, driver installation is automatic. You may see a small screen pop up on the bottom right hand corner of the screen for the first few seconds the device is plugged in, after which it will appear in the software.



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