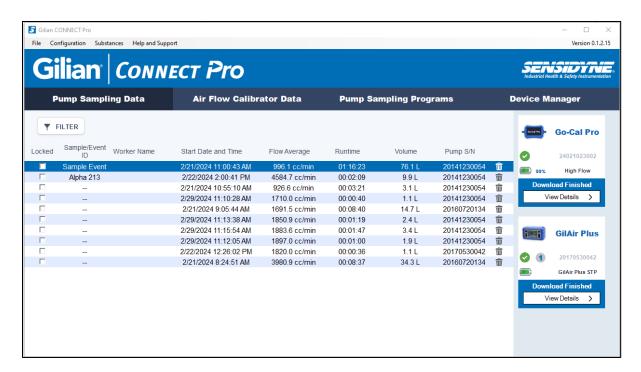


Pump and Calibration Data Management Software



User Manual



Industrial Health & Safety Instrumentation

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Overview

Introduction

The all-new Gilian CONNECT Pro software is designed to save you time and help you do your job more efficiently. This PC Application provides a computer interface to help you manage and configure Gilian air sampling pumps and calibrators, and to manage data collected by the pump and associated information with the sampling event.

This User Manual will get you familiar with the capabilities of this software in just a few minutes.

Benefits and Features

The Gilian CONNECT Pro software allows you to:

- Configure pump and calibrator operating parameters
- Easily replicate settings across many pumps
- Create pump runtime programs
- Download and archive sampling data from pumps
- Download and archive calibration data from calibrator
- Link calibrator information to pump sampling events
- Enter information on worker and/or sampling areas
- Enter in sample results from laboratory and compare to exposure limits
- Search and filter sampling and calibration history
- Generate sampling reports
- Generate calibration reports



Pump Compatibility

	GilAir Plus Basic	GilAir Plus Datalogger	GilAir Plus STP
View Serial Number	√	✓	\
View Firmware Version (GilAir Plus Firmware 2.4.0 or higher)	✓	✓	✓
Save pump owner details and notes in the database	✓	✓	\
Download Runtime Data		✓	\
Generate Sample Event Reports		/	\
Export Sample Event details for analysis in Excel		/	\
Create Pump Programs		✓	\
Configure Pump Options		/	
Copy configuration from one pump to another		/	\
View run-time graph of Flow rate and back pressure		✓	✓
View run-time graph of ambient pressure and temperature			✓
Automatic STP-compensated concentration and volume			✓



Calibrator Compatibility

	Go-Cal Pro
View Serial Number	✓
View Firmware Version	✓
Save calibrator owner details and notes in the database	✓
Download Calibration Data	✓
Generate Calibration Reports	✓
Export Calibration Event details for analysis in Excel	✓
Configure Calibrator Options	✓
View run-time graph of flow rate during calibration sample set	✓
STP-compensated flow rate	✓



Installation

Minimum Requirements

Computer

Use of this software requires a computer with the following minimum specifications:

Operating System	Microsoft Windows Operating System (10 or higher)
Installed Software	Web Browser
Display Resolution	1024x600
USB port	Required for communication with Instruments
Internet Connection	Required to enable Software Installation and updates

Instruments

The following Instrument Firmware is required for use with this software:

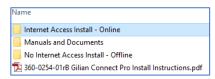
GilAir Plus Pump	2.4.0 or Higher
GilAir Plus Docking Station	3.3 or Higher
Go-Cal Pro Calibrator	1.0.4 or higher

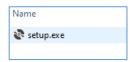


Installation Procedure

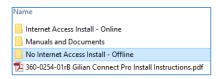
To install Gilian CONNECT Pro, insert the USB Flash Drive that came with the Instrument into the computer's USB port.

Internet Access – If internet access is available, double click the "Internet Access Install - Online" folder, then the "set up.exe" file.





No Internet Access – If an internet connection is not available, double click the "No Internet Access Install - Offline" folder, then the "setup.exe" file.





NOTE: The offline process will install CONNECT Pro, but automatic updates will not be possible. Contact Sensidyne to receive updates to the software. When possible, the online install is the preferred setup and will provide a path for automatic updates upon starting the application.

Remain logged-in to your regular Windows account.

The application must be installed separately under the user or administrator account of each person who will use the application.

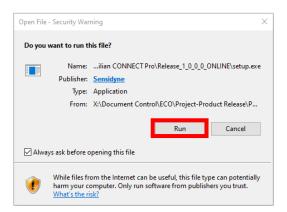
The installer will request administrator credentials if necessary.

Application data (database data) will be shared between users.

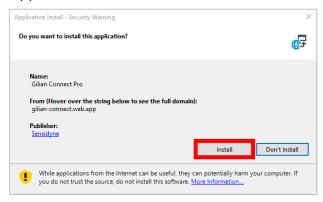
For help, additional information, or to obtain the latest version of the software contact Sensidyne by email SoftwareSupport@sensidyne.com.



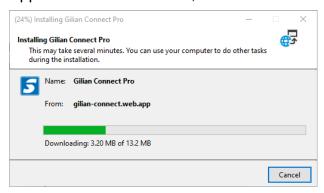
Installation Windows



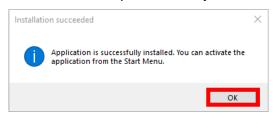
Application Installer window, Click Run button to begin.



Application Install window, click on Install button.



The installation process may take several minutes.



Click OK when installation is completed.



Opening Gilian Connect Pro

Initiating Software Application

Once the software application has been installed, you may open it from your Start Menu or from the pinned icon.



A window may appear that states, "Windows protected your PC". This is due to it not recognizing our application. Select "More Info"

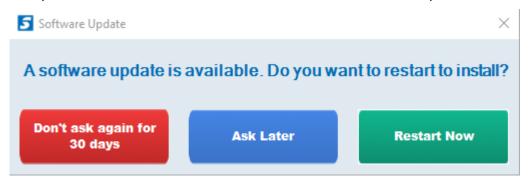


A new message will appear that allows you to "Run Anyway". Select this option to continue.



Update Available

If your computer is connected to the internet, it will search for an update.

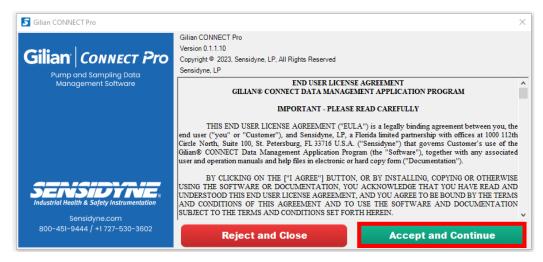


If an Update is available, a window will pop-up asking if you would like to download and utilize the newer version. Select "Restart Now" to update application. If program does not automatically restart after update, you may open it from your Start Menu.

Note – downloading a newer version will not impact the data already stored in your database.





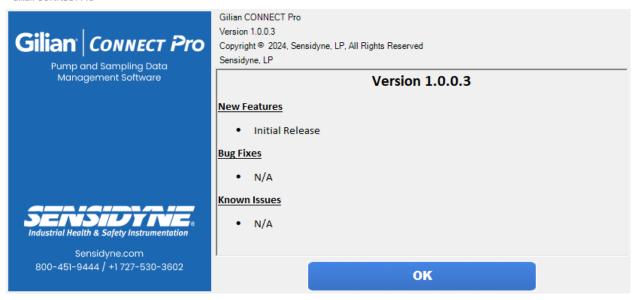


An End User License Agreement with standard terms and conditions will appear. Upon review and approval of the terms, select the "Accept and Continue" button to load and open the application.

The application will load and open to the main screen.



Gilian CONNECT Pro



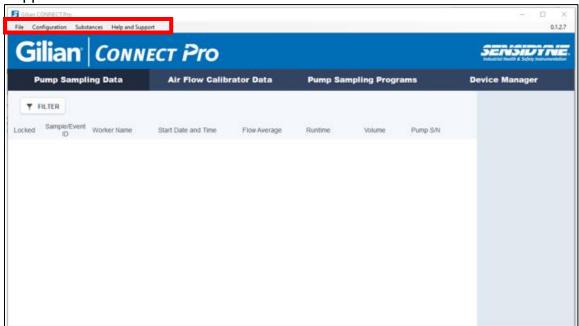
A window will appear that will state the improvements and additions added since the last version was released.



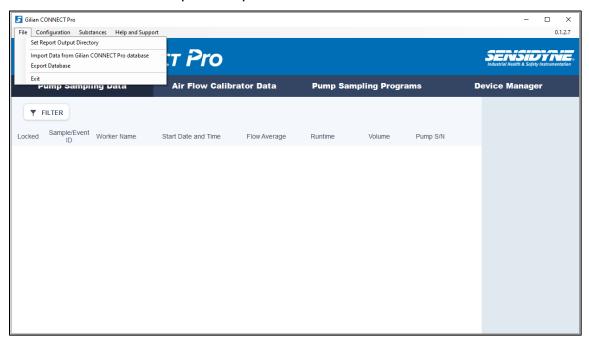
Main Screen

Menu Items

The main screen has four Menu Items; File, Configuration, Substances, and Help and Support.



Each menu item has dropdown options available when selected.



The File menu dropdown options include; Set Report Output Directory, Import data from database, Export Database, and Exit.



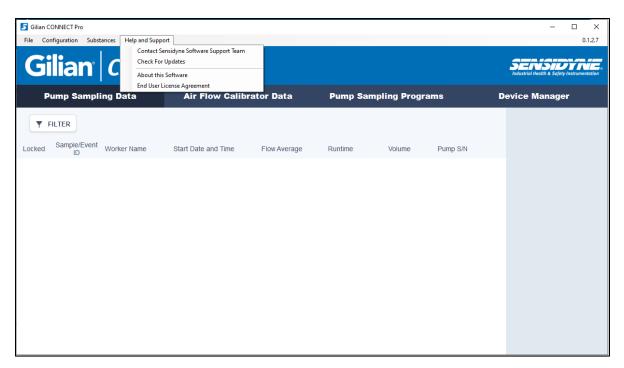


The Configuration menu dropdown allows for installation of USB drivers, options to clear data and stored reports from your devices after they download, and options to select your preferred units of measure.



The Substance menu dropdown option will allow you to edit and add target substances to your database, and allow you to enter in various applicable exposure limits. See section on Target Substances for further information on editing.



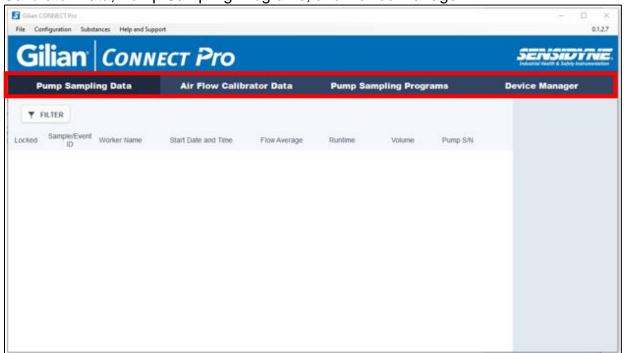


The Help and Support menu dropdown will provide ability to contact Sensidyne, ability to check for software application update, ability to view history of version updates, and ability to review the End User License Agreement.



Function Tabs

There are four Function tabs on the main page; Pump Sampling Data, Air Flow Calibrator Data, Pump Sampling Programs, and Device Manager.

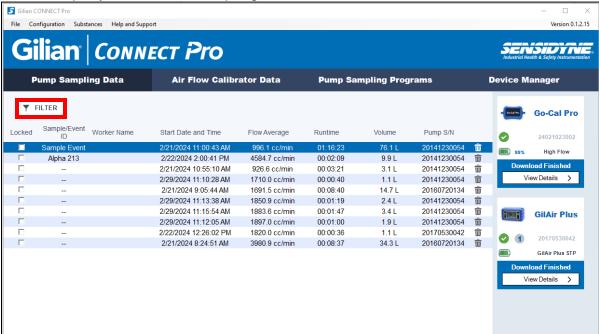


The Pump Sampling Data tab displays the downloaded pump data as time and date stamped sampling events. Each event can be opened by double clicking the highlighted line. This will allow for additional event information to be entered and to link the pump sampling event to calibration events.

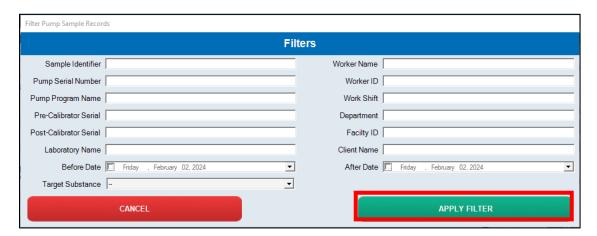




Events can be sorted by selecting any of the column headers, or by using the Filter button to query based on a sampling event field.



A Filter window will appear with data fields that can be queried.



Enter in one or more fields, and click the Apply Filter button. The event(s) that meet the parameters of the filter will be displayed within the tab.

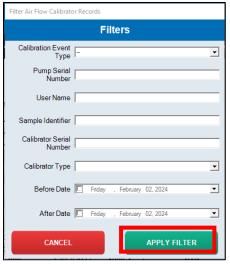




To view air flow calibration events, select the Air Flow Calibrator Data tab.

The Air Flow Calibrator Data tab displays the downloaded calibration data as named flow verification events. Each event can be opened by double clicking the highlighted line. This will allow for additional event information to be entered and to link the pump sampling event to calibration events.

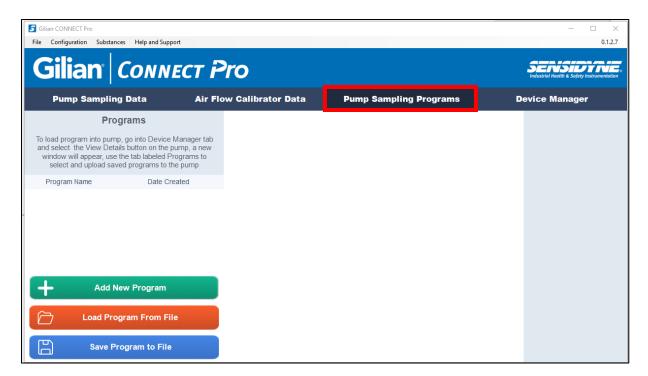
Events can be sorted by selecting any of the column headers, or by using the following Filter function.



Enter in one or more fields, and click the Apply Filter button. The event(s) that meet the parameters of the filter will be displayed within the tab.

To create pump sampling programs from within Connect Pro, select the Pump Samplings Programs tab.



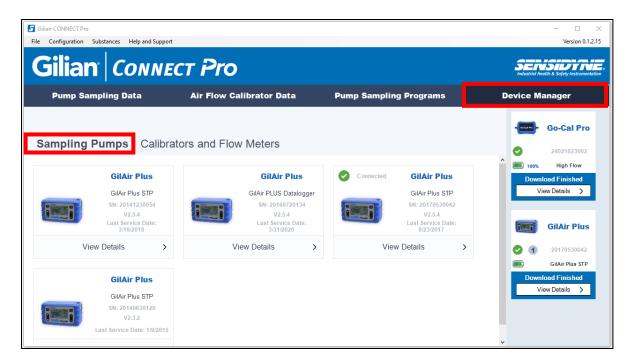


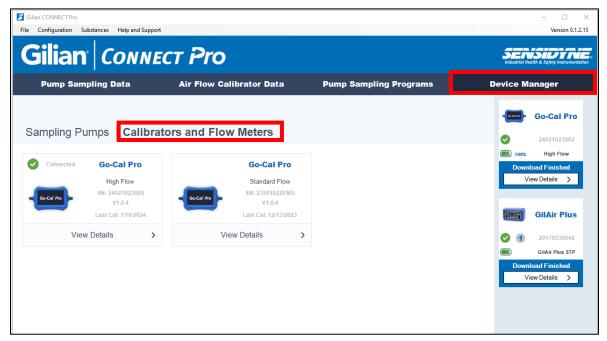
The Pump Sampling Programs tab allows for creation of new pump programs, the ability to load a previously created pump sampling program to your list of available programs, and the ability to save a pump program to file. To load the pump program into the pump, you will need to go into Device Manager Tab and select from the list of connected pumps.

See Pump Program Management section for more information on creating program steps.



The Device Manager tab has two sub-tabs, one for Sampling Pumps and the other for Calibrators and Flow Meters. There is a history of all previously connected devices present within each of the sub-tabs, and the devices that are currently connected will be displayed with a green checkmark.





Select the View Details button on any connected device to open and edit the devices configuration. See Page 41 for more information on Pump and Calibrator Configuration.



Connecting to a device

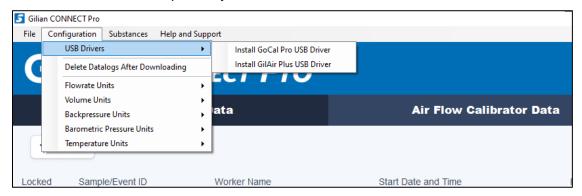
Connecting a pump

Ensure the Dock is powered with the included power adapter and connected to the computer with the USB cable provided.

Gilian Connect Pro will automatically find the COM ports that are connected to Gilian Equipment once USB Drivers are installed.

The Connect Pro software will detect the device and begin to download the event data.

If the device is not auto detected, the USB Drivers can also be installed from the Configuration menu at the top of the Main Screen. Select "USB Drivers" from the configuration menu dropdown. Both Gilian Go-Cal Pro and GilAir Plus drivers will need to be installed separately.



Note – If a pump is connected that does not meet the minimum firmware requirement, the Device List will show "Incompatible Device".

Connecting a calibrator

Ensure the calibrator is powered on and connected to the computer with the USB cable provided.

The Connect Pro software will detect the device and begin to download the event data.



Automated Pump Registration

Pumps must be registered into the Gilian CONNECT database on your computer before data can be downloaded. This process is automatic and only needs to be done once, but only one pump can be registered at a time. If you have a multistation dock and a pump does not appear in the list of connected pumps, follow these steps:

- Remove all other pumps
- Allow up to 30 seconds for the pump to be recognized
- When it appears in the pump status display in the app, it is ready
- Other pumps can now be connected to the dock

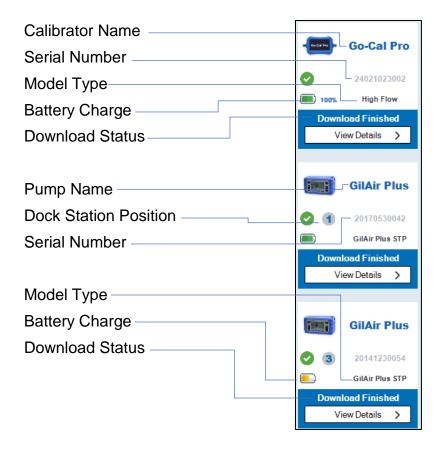


Pump and Calibrator Status Display

When Gilian CONNECT Pro is communicating with a pump or calibrator, the status will be displayed in the list of connected devices.

The connected pumps and calibrator list contains status boxes that let you know if the device is still downloading, or if the download has finished. Additionally, pumps will contain a numeral that correspond to each position in a five-station or three station dock.

To view the pump or calibrator details, you can select the View Details button for each instrument and view the instrument serial numbers, name, and firmware version, as well as the current settings. The Settings sub-tab also allow you to configure the settings within the Connect Pro program and load them into the instrument. See page 35 for further instructions.

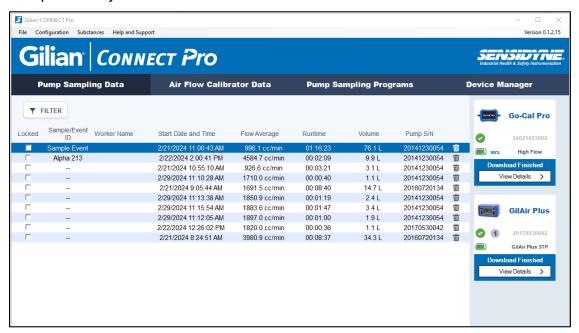


Battery-Charging Status: A fully-charged pump will undergo a top-off cycle to ensure battery health. A green battery icon indicates a fully charged battery.

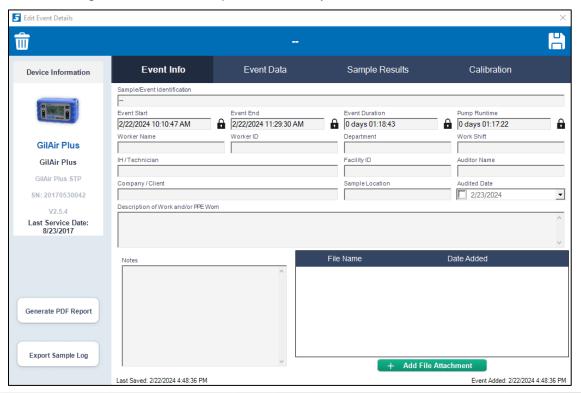


Editing Events

To view and edit details about a sampling event, double-click a highlighted row in the Sample History list.



An Edit Event Details window will appear. This is where you can enter information such as Worker Name, Job Title, Target Sampling Substance, the quantity and result of target substance sampled, and link your calibration event data.

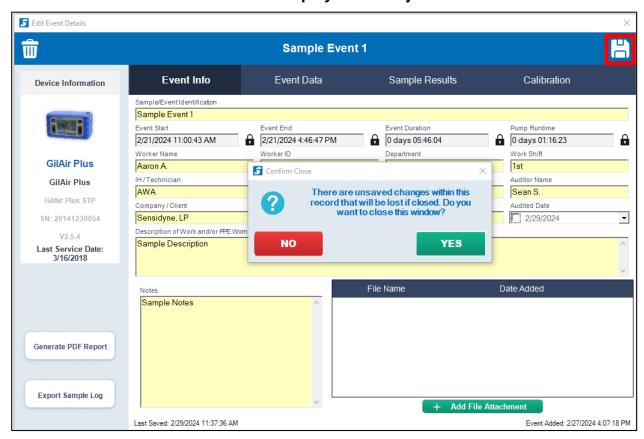




Textbox background colors

As data is entered, the background color of the boxes indicate the status of the boxes. The color will change from grey to yellow once a change to that field has occurred. If you attempt to leave an event after a change has been made, a notification window will pop up and ask if you would like to save the changes before exiting

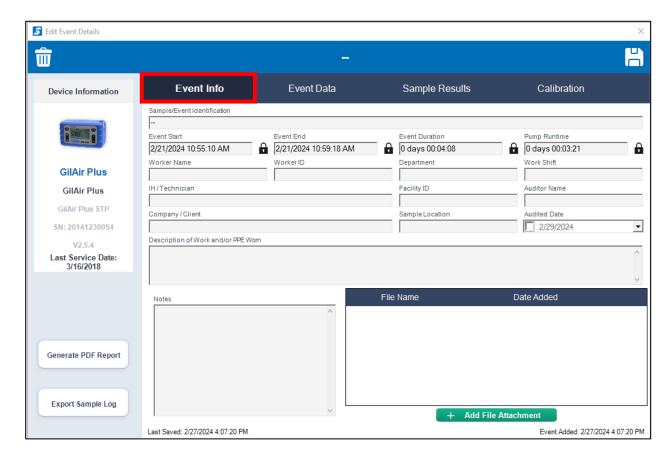
Note – Several fields that pull in data from the instruments are locked and cannot be edited. These fields will display a lock adjacent to the field.



To exit without saving, select yes, or to save your entry, select no and then select the Disk icon in the upper right corner.



Event Editing Window Sub-tabs

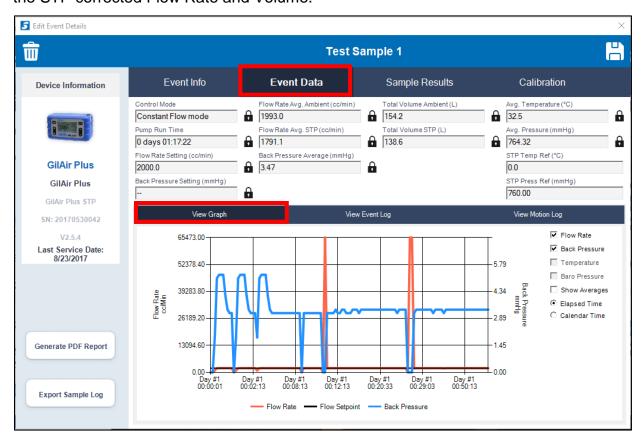


The Event Info Tab allows for entry of the event name. This is often characterized by the Unique Sample Identification used for the sample media, and/or specified on the laboratory chain of custody. Other pertinent sample information can be added in this tab to further characterize the sampling event and worker or location being sampled.

There is an additional field that allows for a typed out Description of Work and/or PPE that may have been worn by the worker. There is also a Notes section to add any other notes collected by the IH/Technician. Lastly, there is the ability to add files to the event that may include photos, SDS sheets or other information relating to the sampling event.



The Event Data tab pulls in information from the sampling pump. Several fields that pull in data from the instruments are locked and cannot be edited. These fields will display a lock adjacent to the field. The information includes settings on the pump, the average Flow Rate and the Total Volume collected. If your pump model has temperature and pressure sensors, this information will also be displayed, along with the STP corrected Flow Rate and Volume.



Below the data fields, there are up to three tabs. The first sub-tab will display an Event Graph. Only two types of data may be displayed simultaneously. If two are already selected, de-select one or both to enable the other options. The data selected first is displayed on the left vertical axis, and the second is displayed on the right.

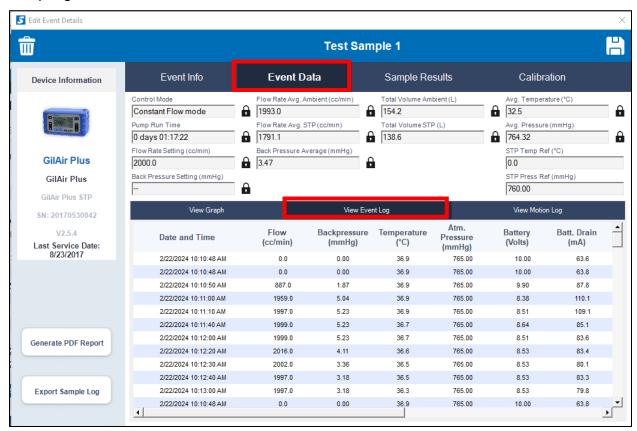
The graph can be manipulated by checking the boxes in the adjacent Key. The Graph will default to show Flow Rate and Back Pressure. To select ambient temperature and barometric pressure information to be displayed, uncheck the Flow Rate and Back Pressure boxes from the Key, and then select the Temperature and Baro Pressure boxes in the Key.

To see the average value of each of these parameters, select Show Averages box on the Key and the average values will also appear on the graph.

Temperature and Atmospheric Pressure data are only available for events recorded by STP pumps.



The second sub-tab on the Event Data tab will display the Event Log. This log provides further time detail information on the data collected throughout the sampling event.



Every data point recorded by the pump during the sampling event can is displayed in the View Event Log sub-tab.

Temperature and Atmospheric Pressure data are only available for events recorded by STP pumps.



The third sub-tab on the Event Data tab will display the Motion Log, if your pump model has the Bluetooth/Motion package. The Motion data is displayed by time and is color coded to represent three motion phases.

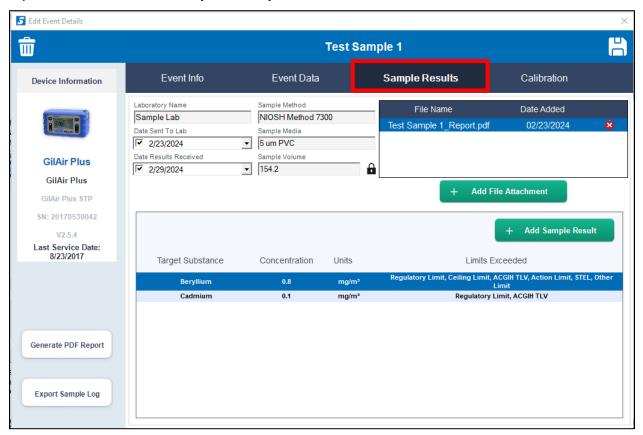


The bar graph shows the type of motion that the pump recorded at the time. The proportions of each of the 3 types of recorded motion are displayed in the pie chart and are the same numbers that are reported on the pump's event review screen. The user motion type is broken down into ACTIVE motion (walking), STATIONARY motion (wearing, but not walking), and INACTIVE motion (not wearing).

Default threshold settings provide distinction between a pump running on a desk and a pump worn by a stationary user. Threshold settings can be modified to differentiate between a resting and active user or to prevent unwanted change from **INACTIVE** to **STATIONARY** when a pump is placed on a moving surface (for example a car seat) or to ignore small movements within a work area, only changing state when the user is walking from one work area to another. For information on how the thresholds affect the motion types, please see the pump's user manual.



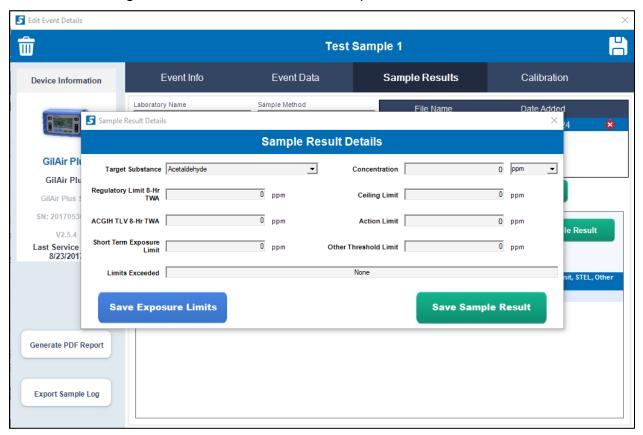
The third tab of the event details is the Sample Results tab. Laboratory Name, Sample Method and Sample Media type can be entered on this tab. The laboratory report and Chain of Custody files may also be attached to this event tab.



Lastly, sample results and exposure limits can be added to the event. In some cases multiple target substances are reported for that sample method and can be added for the same Sample/Event ID.



When adding a sample, a Sample Result Details window will appear. You can select from a preloaded list of Target Substances, or if not present, add new Target Substances using the Substances menu on the top of the Home Screen.



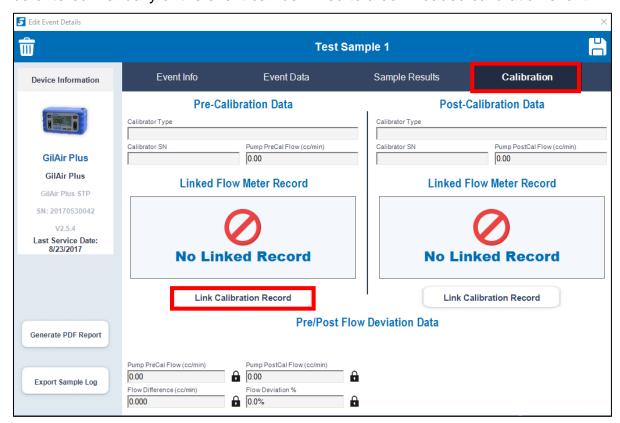
Within the Sample Result Details window, you can add the laboratory result and unit of measure. You can also enter the exposure limits associated with that target substance. Once the exposure limits have been entered, select the save exposure limits button to save these into the systems database. These fields will then be automatically populated the next time the target substances is selected.

If the concentration entered is above the exposure limits, the Limit Name will be displayed in the Limits Exceeded field. This value can be queried in the Search Filter for later review of current and past exceedances.

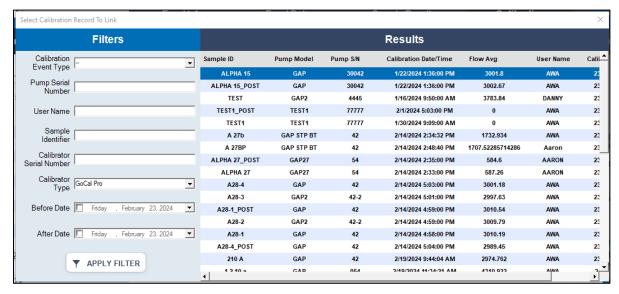
Note – There are four preset units of measurement; ppm, mg/m3, fibers/cc, and count/cc. The default value is in ppm, and must be changed per the exceedance level units.



The fourth tab of the event details is the Calibration tab. Calibration information can be entered manually or the event can be linked to a downloaded calibration event.



Selecting the Link Calibration Record button will open a window with a filter option for all downloaded calibration records.

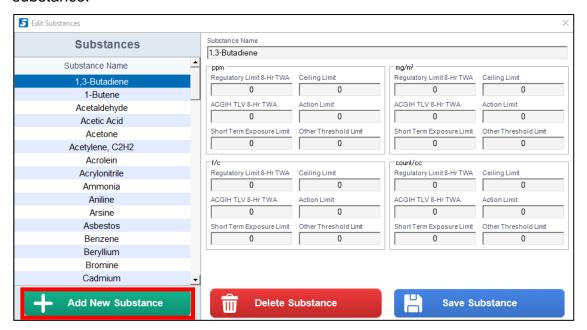


Filter and select the pre-event calibration record and if applicable repeat this step for the post-event calibration record. Once they are linked, Pre/Post Flow Deviation Data is populated showing the Flow Difference and Flow Deviation Percent that occurred over the event period.

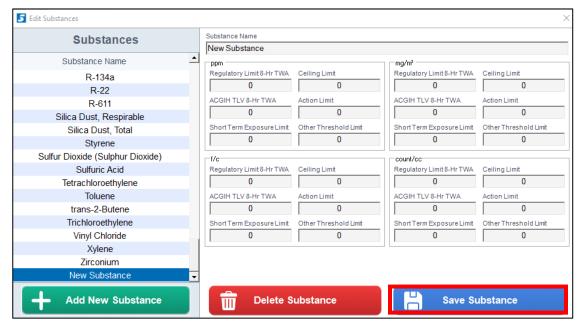


Target Substances

Gilian CONNECT Pro has provided a list of commonly-sampled substances. From the main page, select the Substances menu item and select edit list. This will open the preloaded list and provide four unit of measurement options for each target substance.



If the substance is not already in the list, select the Add New Substance button.

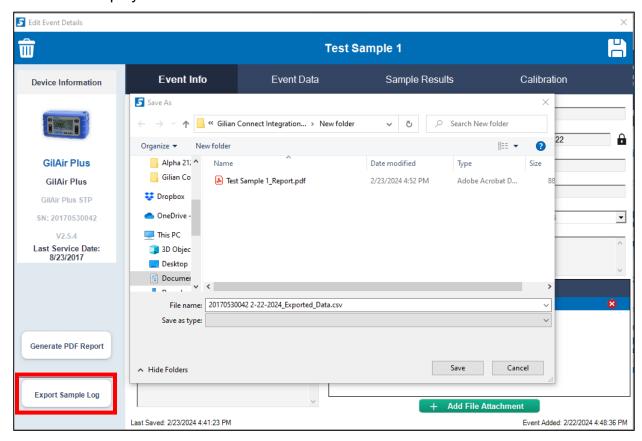


Type in the name of the new Target Substance along with any applicable exposure limits and select the Save Substance button. This will now be available and prepopulated in the Sample Data tab when adding new Sample Results.



Exporting Data to Excel

Data Points from the sampling event can be exported to a CSV file (Comma-Separated Values) to facilitate importing the data into Excel, or for viewing event details not displayed in Gilian CONNECT Pro.



Select the Export Sample Log button and a window will pop-up allowing you to save the .csv file to a file folder you choose.

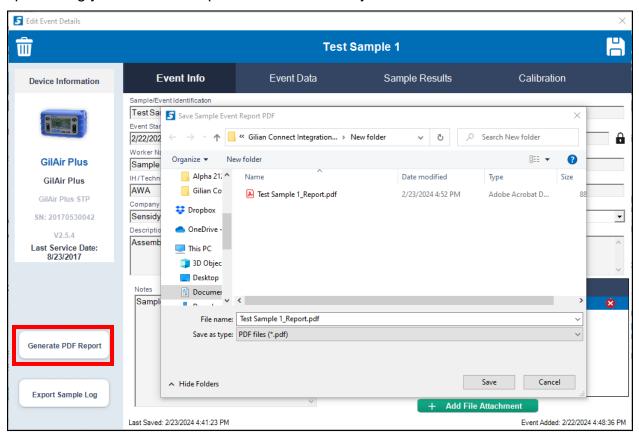
To view the data in Excel, **do not** double-click the .csv file. Open Excel, then change to All File Types, then select the .csv file, then select "Open File" to import the file. A window will appear that allows for setting the preference to "Tab" as the delimiter character.



Generating Reports

Gilian CONNECT Pro has report generation capabilities. Reports are created in PDF format.

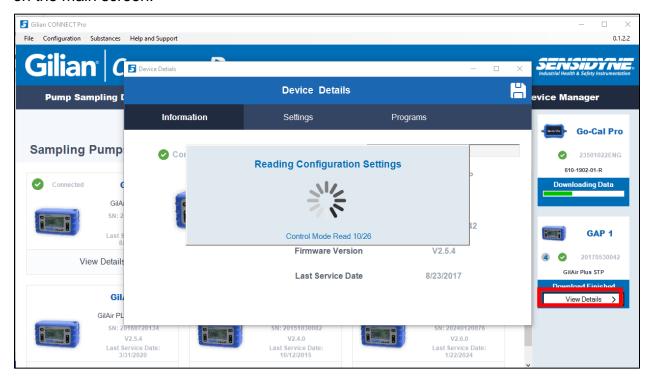
The report includes fields from both the pump sampling event and the linked calibrations records. Select the Generate PDF Report button and a window will popup allowing you to save the .pdf file to a file folder you choose.





Pump Configuration Management

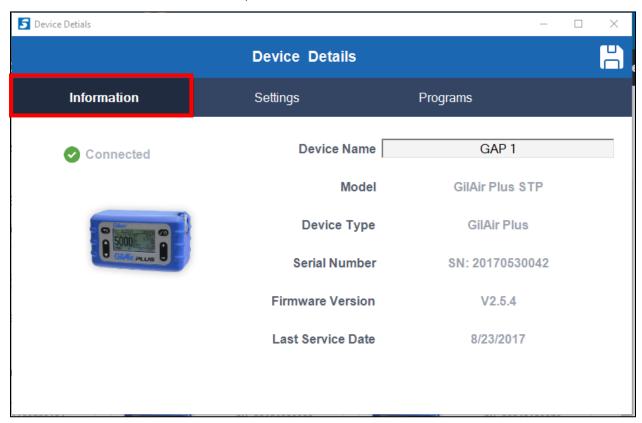
Air sampling pumps can be configured within the Device Details window. Select the View Details button on the connected pump, or access through the Device Manager tab on the main screen.



Connect Pro will read the current configuration of the pump and populate the details.



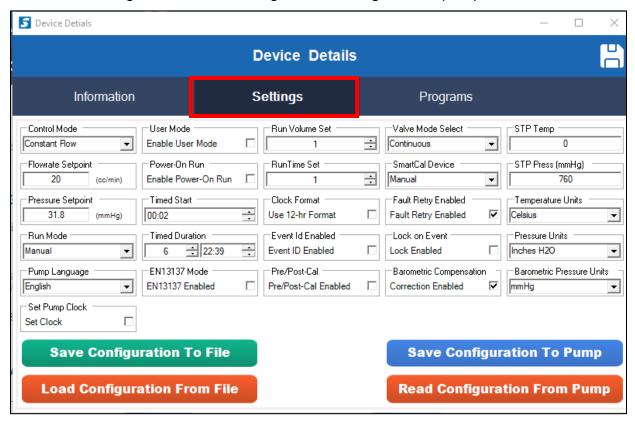
Within the Device Details window, three sub-tabs are available.



The Information sub-tab allows the Device Name to be changed. It also provides information on the Model, Device Type, Serial Number, Firmware Version, and Last Service Date.



Select the Settings sub-tab and configure the settings for the pump.



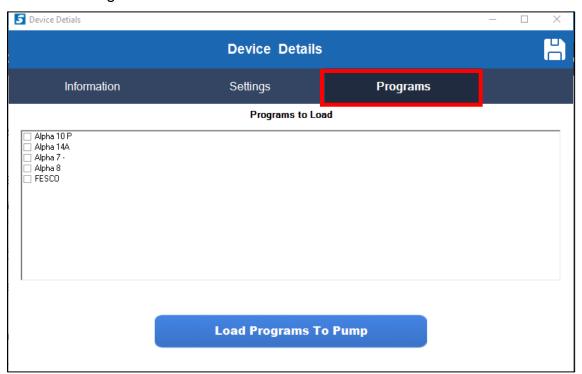
When complete, select the Save Configuration To Pump button to load the configuration settings into the pump.

The Configuration can also be saved to file and then sent to another Connect Pro User. Additionally, a pump configuration file can be loaded from file and then saved to the selected pump.

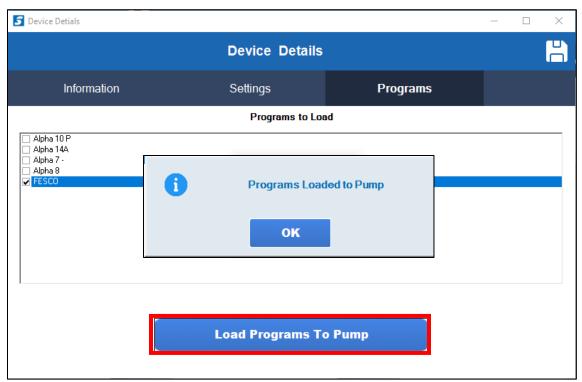
If a change to the pumps configuration was performed manually, the pumps configuration can be reloaded by selecting the Read Configuration From Pump button.



Select the Programs sub-tab.



A list of all available programs will appear, which can be selected and loaded to that specific pump.

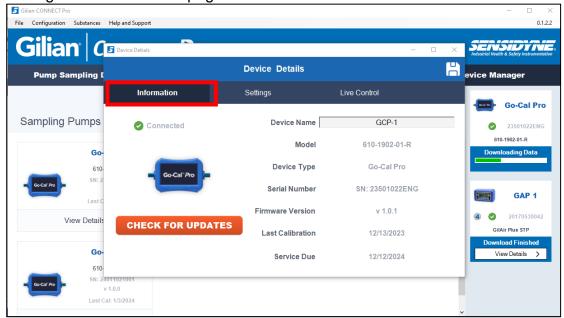


Check the box adjacent to the desired program and then select the Load Programs To Pump Button to initiate. A confirmation window will appear once the programs loaded.

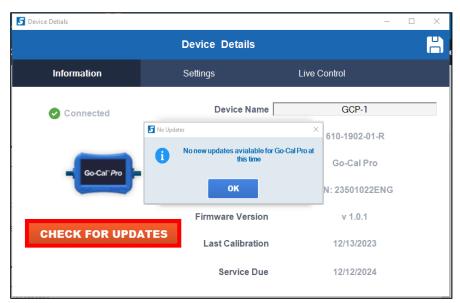


Calibrator Configuration Management

Air Flow Calibrators can be configured within the Device Details window. Select the View Details button on the connected calibrator, or access through the Device Manager tab on the main page.



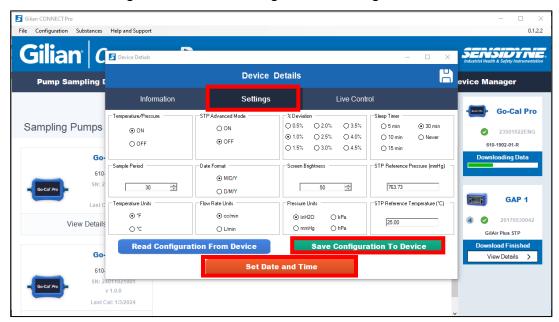
Within the Device Details window, three sub-tabs are available. The Information sub-tab allows the Device Name to be changed. It also provides information on the Model, Device Type, Serial Number, Firmware Version, Last Calibration date and a recommended Service Due date.



Additionally, device updates can be downloaded to the device by selecting the Check For Updates button. If an update is available, you can update the device firmware by selecting OK.

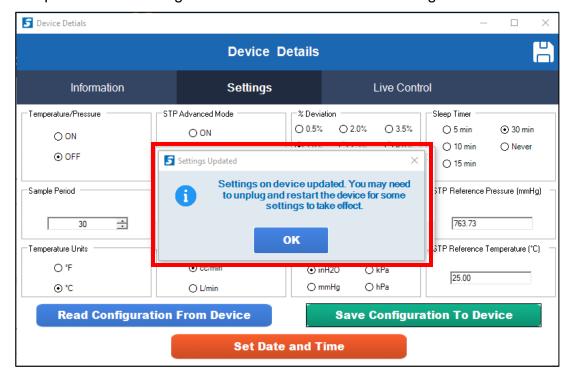


Select the Settings sub-tab and configure the settings for the calibrator.



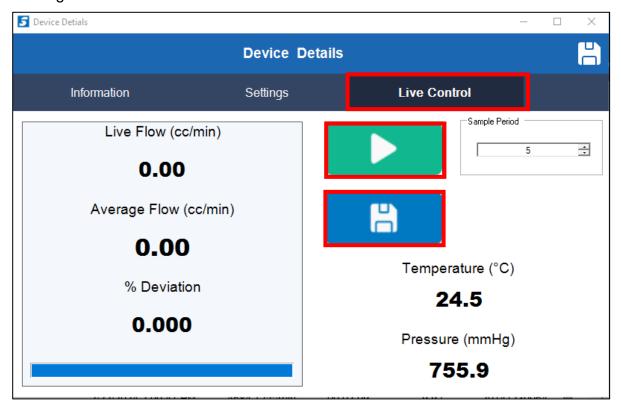
When complete, select Save Configuration to Device button to load the configuration settings into the calibrator. To synch the date and time on your computer to the calibrator, select the Set Date and Time button.

A pop-up window will appear instructing the user to unplug the device from the computer and restarting the calibrator in order for the changes to take effect.

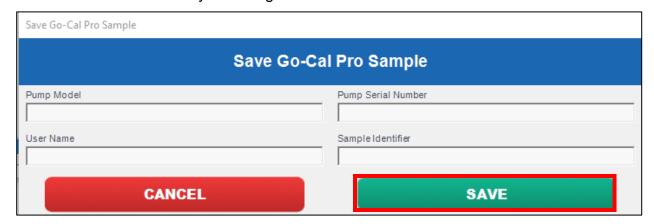




The third sub-tab is Live Control. From this tab you can collect a flow verification reading and store it to the Connect Pro software.



With the sample pump and sample train connected to the Go-Cal Pro, start flow on the pump and the live flow reading in the window will display what the calibrator is displaying. Use the Play button to collect the timed interval and save the flow verification event record by selecting the Save button.

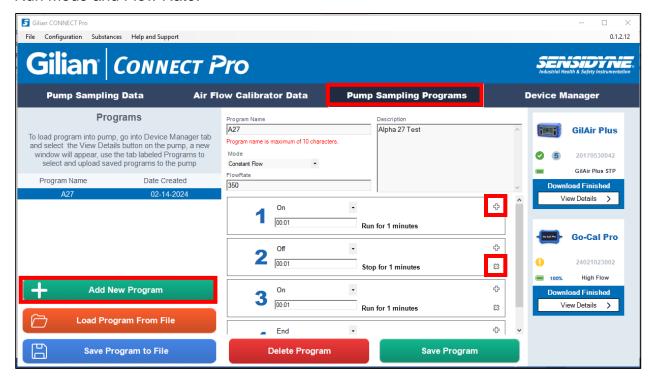


Enter in the four fields of event information and select the Save button to store the record in the Connect Pro software.



Pump Program Management

Create a new program by selecting the Add New Program Button. The program can be named using up to 10 characters, which will be displayed in the pumps program directory. A description of the program can be added as well as setting the pump's Run Mode and Flow Rate.



Run Mode Options

Choose from the run mode options available on your air sampling pump.

- Constant Flow Mode is used for sampling using a single sample media where the flowrate will remain constant as back pressure increases.
- Constant Pressure High Mode is used with the Gilian High Flow Splitter to sample two sample media simultaneously, where the flow rate is set on the splitter manifold for each media.
- Constant Pressure Low Mode is used with the Gilian Variable Manifold Kits to sample up to four sample media simultaneously, where the flow rate is set on the variable manifold for each media.

Setting the Flowrate

The flow rate must be set within the flow range of your sampling pump.

Please note that on the GilAir Plus pumps, the valve must be set to high (450 cc/min to 5100 cc/min) or low (20 cc/min to 449 cc/min) on the pump prior to running the loaded program.



Program Step Sequence

Programs can be established with Gilian Connect Pro and loaded to individual pumps. A pump program can have up to 20 steps. Options for program steps include; Date, Weekday, Time, On, Off, Runtime, Volume, Cycle, and End.

Note – Review Pump Manual for further information regarding the function options available for your pump.

- Add a step by clicking the "plus" icon in the upper right corner of the program step. This will insert a new step.
- Delete a step by clicking the "X" icon in the lower right corner of the program step.
- To edit a step, select from a choice of dropdown functions. Once a function
 option has been selected the corresponding text for that function will appear
 next to a box that will allow for a value to be entered that relates to the specific
 function selected.

The pump program can also be saved to file and then sent to another Connect Pro User. Additionally, a pump program can be loaded from file and then saved to the current Connect Pro list of programs.

NOTE: Remember to set the pump's Run Mode to [program name] and press "Run" on the pump to start running the program. Refer to the pump's User Manual for more detailed instructions.

NOTE: Program steps do not turn the pump on or off unless they are selected. "Wait" steps simply delay until a point in time, then continue to the next step.



Troubleshooting

Problem	Cause	Solution	
I installed the application but now I can't find it.	The application is only available under the Windows user account in which it was installed.	Install the application under your regular user account.	
None of the available COM ports seem to work, or no COM ports are available.	If the docking station USB was connected while the USB driver was being installed, the driver installation could not finish. This occurs even if the dock was not powered at the time.	Unplug the docking station USB cable and wait a few seconds. Reconnect docking station.	
	Calibration device connected to dock	Calibration devices can communicate directly with the pump through the docking station, however this overrides the ability of the pump to communicate to the PC. Disconnect the calibration device cable from the dock.	
CONNECT Pro doesn't see my pumps	Using new pumps or pumps that have not previously been used on this PC	Refer to the section in this guide entitled "Automated Pump Registration"	
	Some pumps are downloading data	CONNECT Pro does not detect new pump connections while data is being downloaded. When the datalog download is complete, the other pumps will be detected.	

Support

For further assistance, please contact SoftwareSupport@Sensidyne.com



NOTES



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