AimSafety™ PM Link

PC Interface for PM$_{100}$ and PM$_{400}$ Gas Monitors
User Instructions

1   Driver and Software Installation

1.1   Download and Install Drivers

Users of Windows 8 or above should be able to skip this step and proceed directly to Section 1.2.

To download the drivers:

1.   Go to http://macurco.com/products/aimsafety/ and choose the appropriate version the operating system. 32-bit vs. 64-bit.

    NOTE: If the version is unknown, choose the 32-bit version.

2.   Save the installer to a folder where you will be able to find it when the download is finished. Your Downloads folder or the desktop are good options.
3.   When the download is finished, double-click the installer to begin installation.

1.2   Download and Install the PM Link Software

To Download the Software:

1.   Go to https://macurco.com/downloads/ and choose the installer file. The installer file should look like "AimSafety_PM Link_v1.6.9_Install.exe."

    NOTE: "v1.6.9" is the version number of the software. The version may differ (example: v1.7.2).

2.   When presented with the option to save or run the file, choose Save.
3.   Save the installer to a folder where you will be able to find it when the download is finished. Your Downloads folder or the Desktop are common options.
4.   When the download is complete, the software is ready to be installed.

To Install the Software:

IMPORTANT: At certain points during the installation procedure, Windows may ask to allow the software to make changes to the computer. Click **Yes** for these messages.

1.   Locate the installer that was downloaded and double-click the icon to begin installation.

    NOTE: You may receive a security warning (as shown below) about installing the software, click **Run** or **Run Anyway**.
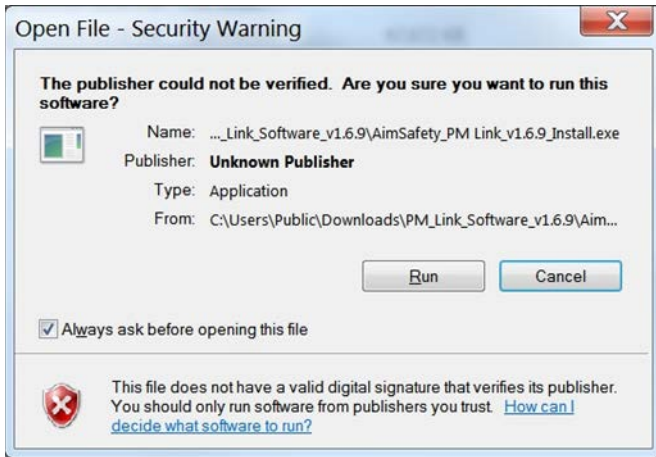
2. The PM Link Setup Wizard will start. Click **Next**.

3. When the Select Installation Folder window displays, we recommend that you accept the default location unless instructed differently by your system administrator. Click **Next** to use the default location. To change the installation folder, click **Browse** and choose the location you want.
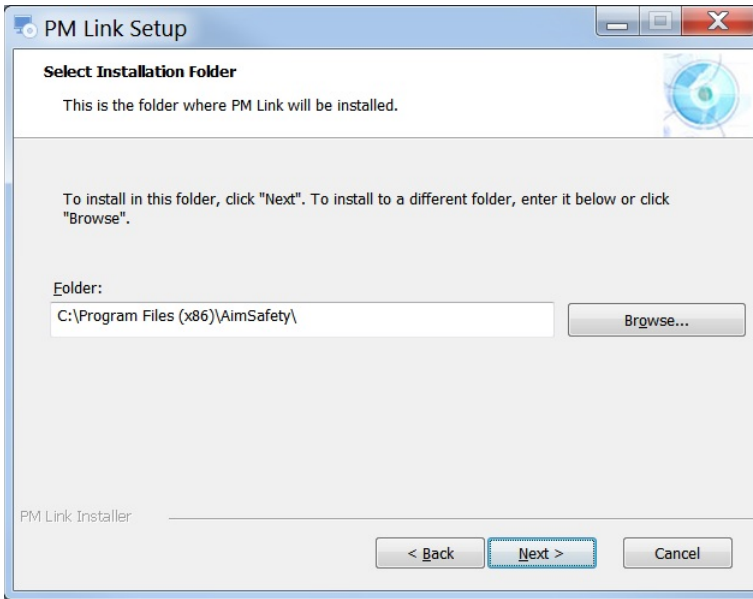
4. The Begin Installation screen displays. Click Install.
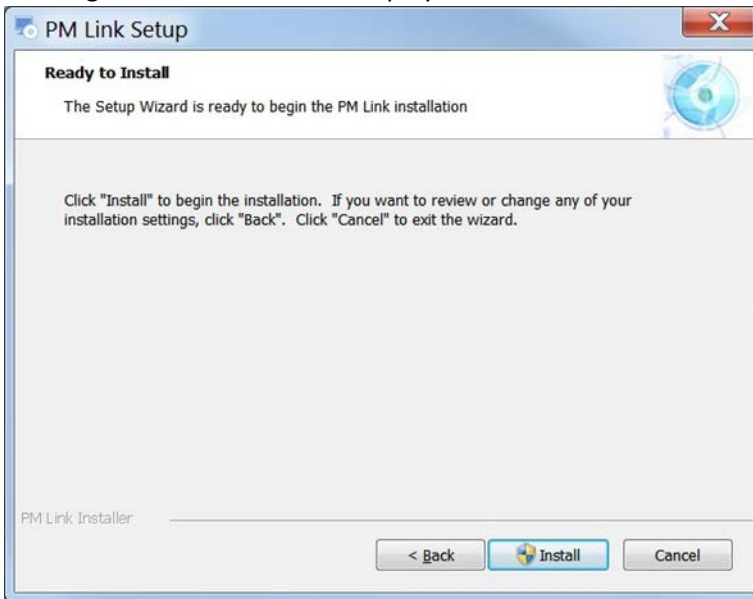
5. At this point, the system may need to install Microsoft Visual C++. These are files that help the PM Link software run.

NOTE: If you already have these files installed on your system, the installation will skip to Step

Check the box labeled "I agree to the license terms and conditions" and click Install.
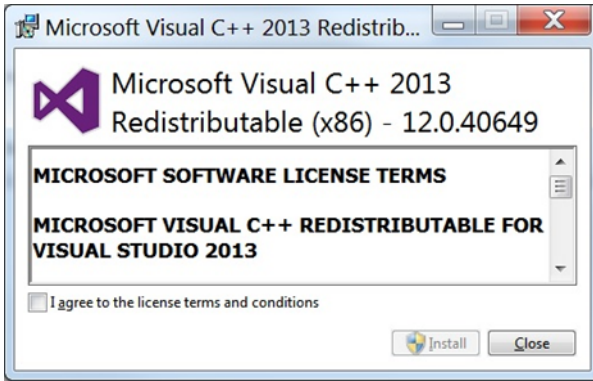
6. You may receive a security warning. Click Yes to continue.
7. When the Microsoft Visual C++ installation is finished, the Setup Successful window displays. Click **Close**.
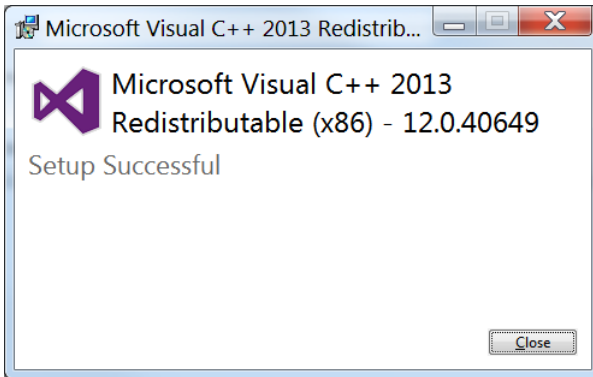
8. The rest of the installation process continues. You may receive another security warning. Click Yes to continue.
9. When the installation is finished, you will see "Click Finish to exit the Setup Wizard." Click **Finish**.
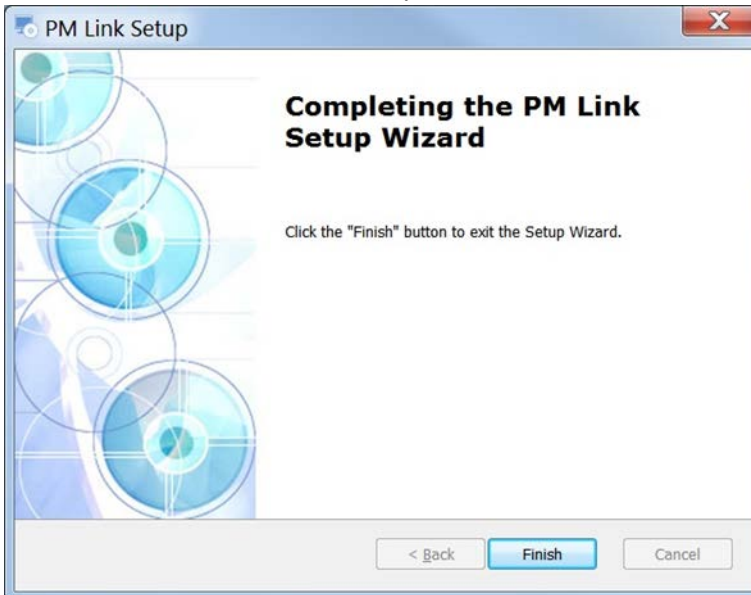
10. The software is ready to use.

2 Operation and User Interface

⚠️ WARNING
Never configure your PM monitor in a hazardous environment. The PM Link does not have an intrinsic safety rating and can cause an explosion.

2.1 Connect the PM Link Hardware to The Computer

The PM Link hardware connects to a USB port on the computer. The PM Link hardware has a Mini-USB port. The PM Link hardware ships with the required Mini-USB cable. Replacement Mini-USB cables are available via retail.

To connect the PM Link hardware:

1. Connect the large end of the included cable to a USB port on the computer.
2. Connect the small end of the cable to the PM Link hardware.
3. The computer detects your hardware and sets it up for use.

NOTE: If you see a message that your computer can't find the drivers for your hardware, please follow the instructions in 1.1 Download and Install Drivers above.

2.2 Launch the Software

To launch the software:

1. Find the PM Link PC icon/launcher in the Start menu under AimSafety folder. Click the Icon.
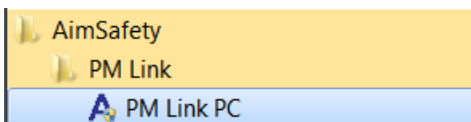
2. If Windows asks whether you want to allow the software to make changes to the device, click **Yes**.
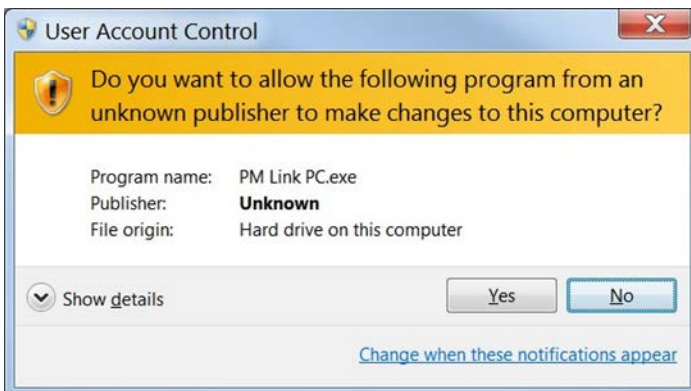
3. The software launches. After a moment, the software interface is displayed.
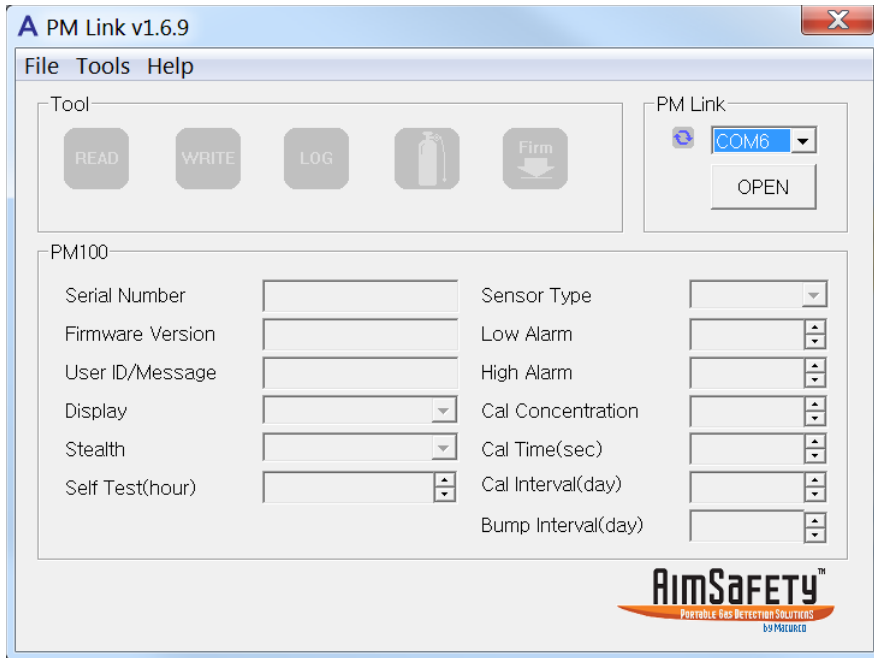
2.3   Open the PM Link COM Port

When the PM Link software is first opened, all fields will be grayed out as shown in the above image.

Click the OPEN button to open communication between the PM Link and the computer. Once communication is established, the PM Link automatically begins scanning for an available PM monitor.
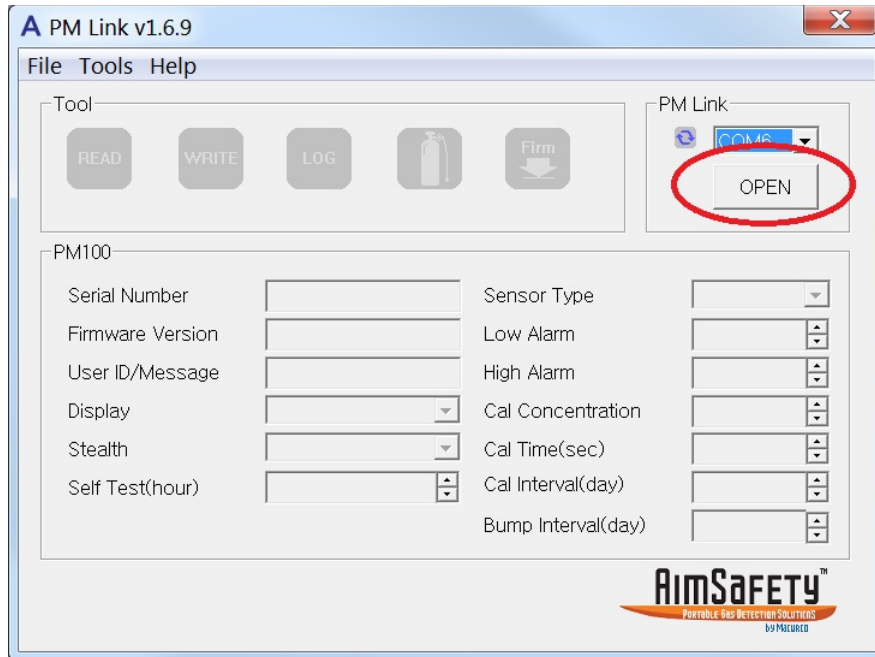
If the PM Link is not found, a "fail Port open" alert pops up. Check to make sure all cables are connected correctly.
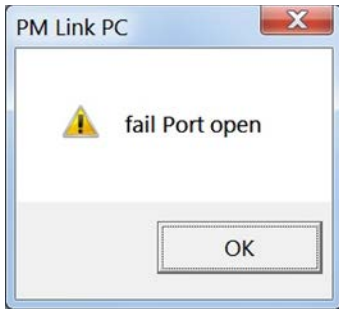
If no PM monitor is found, the "Send TimeOut" alert pops up. Follow the steps in section 2.4 to read the PM monitor.
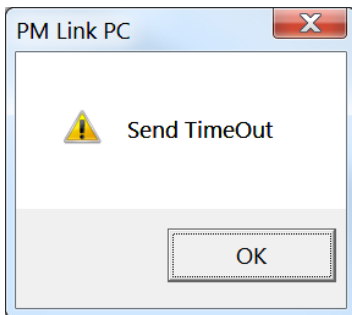
2.4   Read a PM monitor

To use the PM Link to read a PM monitor,

1. Ensure the PM monitor is powered on/activated by checking its LCD display.
    If the display is blank,
    a. Press and hold the orange oval [Function] key on the front of the device. A 3-second count-up timer displays.
    b. Release the [Function] key when the timer reaches 3.
    c. The device runs through Firmware and Self-test screens and displays a 10-second countdown timer before displaying its main screen (either Safe Mode or the Measuring screen). See the device's Quick Start Guide or User Manual for more information.

    NOTE: The PM monitor will not communicate with the PM Link software until the 10-second countdown timer in the monitor is complete.

2. When the PM monitor is powered on and 10-second countdown timer is complete, place it so the IR port at the top of the PM monitor faces the IR port on the PM Link hardware.
3. If the COM port is not already open, click the OPEN button in the PM Link section of the software screen as described in section 2.3. If the COM port is already open, click READ in the Tool section of the software

screen.
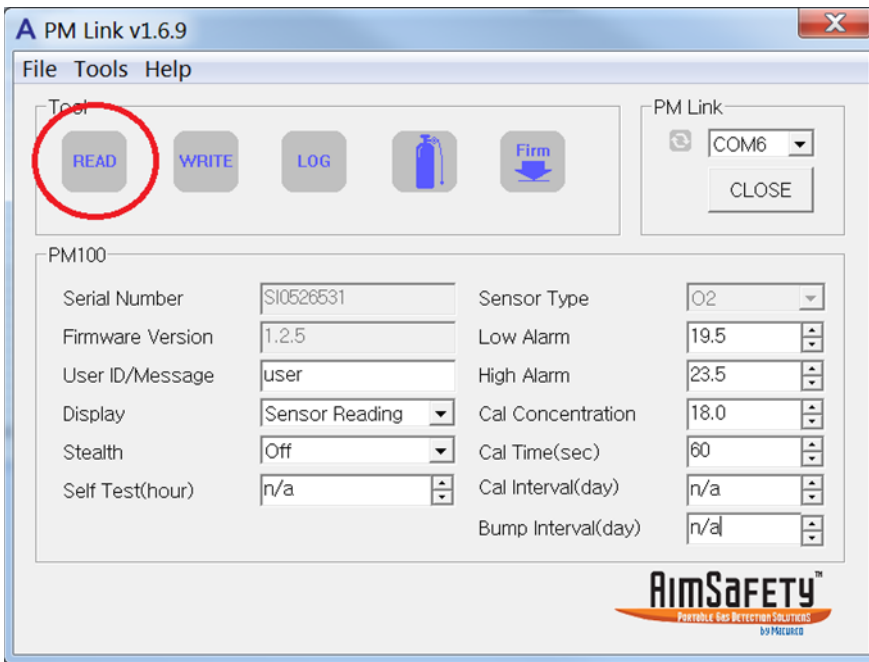
4. The PM Link hardware reads the current configuration from the monitor. A Read Complete alert pops up when this is done. Click OK to close the alert.
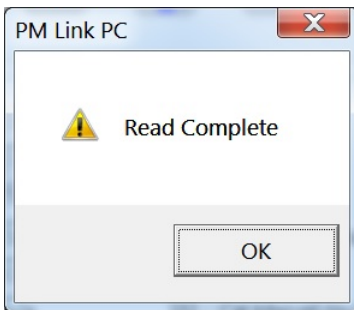
5.   The PM Link interface updates to reflect the current configuration of the PM monitor. The software will detect whether the reading was taken from a PM_{100} or a PM_{400} monitor and will display the appropriate screen.

Figure 2-1 PM$_{100}$ Configuration screen
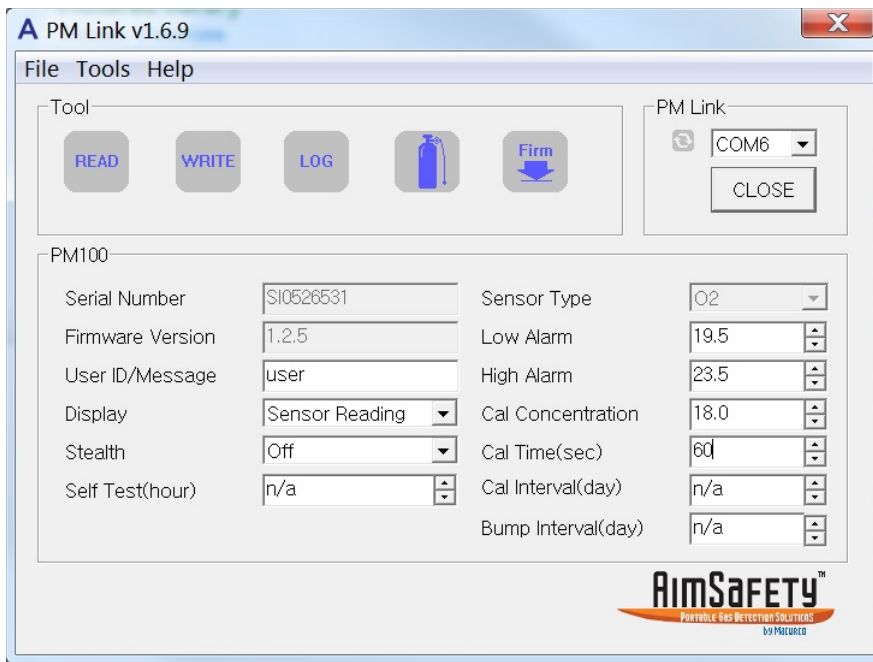
Figure 2-2PM400 Configuration screen
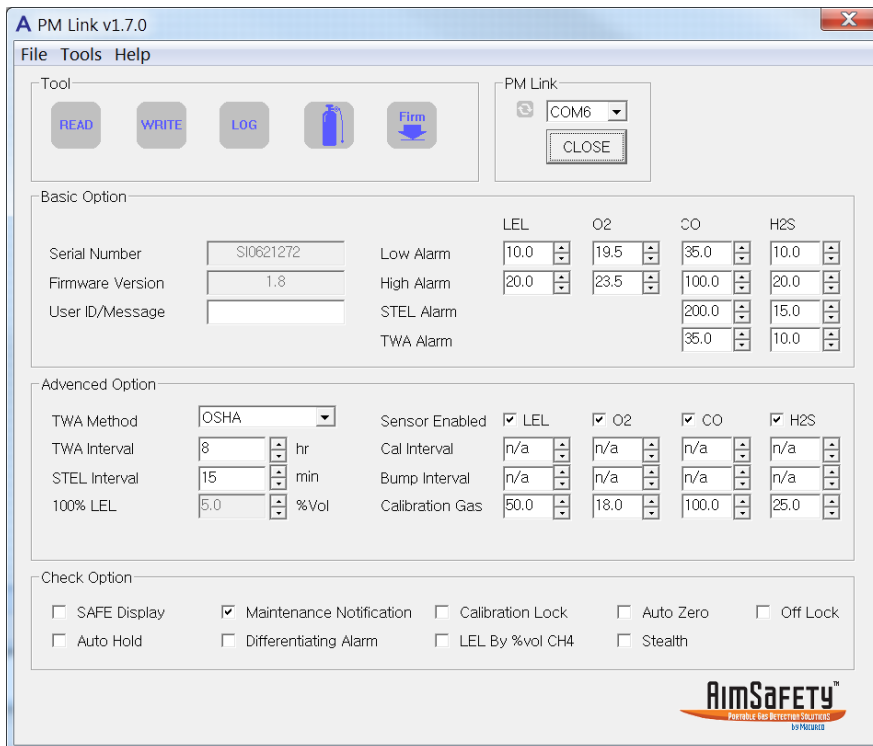
3 PM Monitor Configuration

The PM Link software interface consists of a single screen that allows you to customize the functionality of the PM monitor. When connected, it detects whether using a PM$_{100}$ or a PM$_{400}$ and displays the appropriate screen.

3.1   Load A Configuration

A configuration can be loaded by either reading the configuration of a PM monitor or loading a saved configuration file.

3.1.1   Read the Current Configuration from a PM monitor

With the PM monitor in front of the PM Link, click the Read button in the Tool menu to read a PM monitor's configuration (see section 2.4) at any time. The software will display the PM monitor's current configuration.

3.1.2   Load a Previously Saved Configuration File

To load a previously saved configuration file (See section 3.5 for directions on how to save a configuration file), click **File** from the PM Link menu bar. Click **Load** from the drop-down menu. The "open file" window will open. Navigate to the desired configuration file and click **Open**.
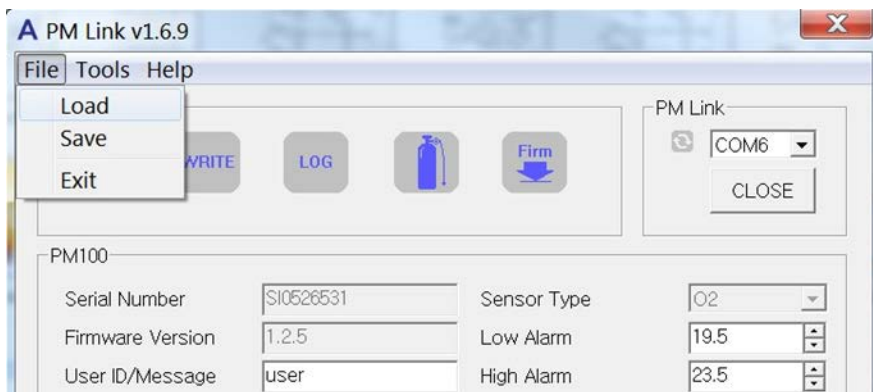
3.2   PM₁₀₀ Configuration Options

Once a configuration from a PM_{100} monitor is loaded into the software, the PM Link software display updates itself to reflect the current configuration.

Fields which are not grayed out can be changed.

3.2.1   User Id/Message:
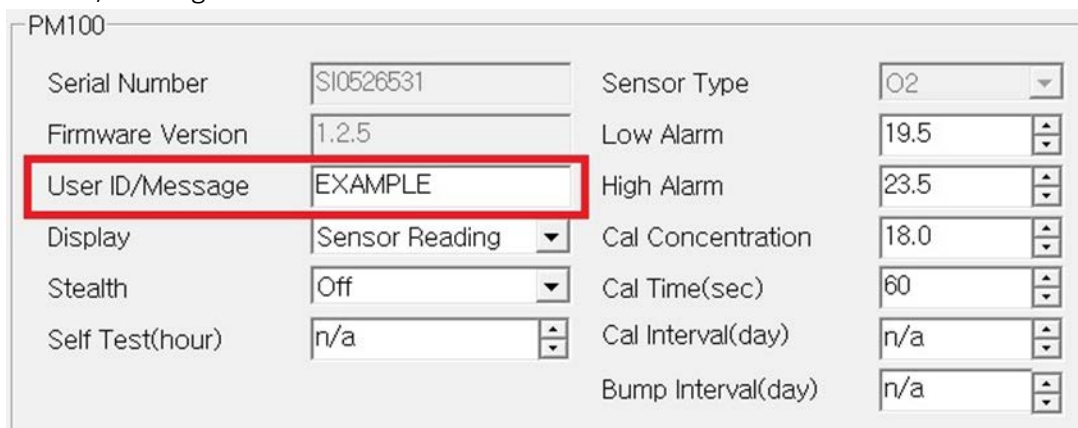
To configure User Id/Message:

1. Highlight the contents of the field by double-clicking in it. Press backspace to remove any leading spaces that may be present.
2. Enter up to twelve numbers or letters in the field.

3.2.2 Display

Changes the appearance of the PM$_{100}$ monitor's Main Screen to display real time gas readings or remaining life of the unit.

Display options:

- Sensor Reading – The PM$_{100}$ monitor displays real-time gas readings on the main screen.
- Sensor/Life – The PM$_{100}$ monitor displays the number of months remaining in the life of the unit on the Main Screen.
  NOTE: Real time sensor readings are always displayed when an alarm condition is met.

To configure the display reading, **click the arrow** to open the pulldown menu and **select** the option you prefer.

3.2.3 Stealth

Enables or disables stealth mode on the PM$_{100}$ monitor. Stealth mode disables all audible, vibrating alarms and alarm LEDs. If set to stealth mode, the PM$_{100}$ monitor display alarm flags are the only indication of an alarm condition.

⚠ WARNING
When stealth mode is enabled all alarm, functions are disabled. Stealth mode should be used with caution.

Stealth Options:

- Off – Disables stealth mode
- On – Enables stealth mode

To configure stealth settings, open the pulldown menu and select the preferred option.

3.2.4   Self-Test

Sets the interval after which the device will prompt the user to perform the self-test.

Self-Test Options:
- n/a – The unit will not automatically self-test.
- 8-20 – The number of hours between tests.

To configure self-test readings, double-click in the field to highlight the number and enter a new value or use the up and down arrows to increase or decrease this value.

Note: See PM100 User's Manual for more information on the self-test option.

3.2.5 Low Alarm

⚠ WARNING
Alarm values are set based on the alarm standard that are required by international standards. Therefore, alarm values should be changed only under the responsibility and approval of the administration of the work site where the instrument is used.

Dictates the low alarm setpoint. When gas concentration becomes less than this setpoint, the low alarm activates.

Low Alarm Options:

- n/a – The low alarm is disabled.
  WARNING: Disabling the Low Alarm is not recommended. Alarm values should be changed only under the responsibility and approval of the administration of the work site where the instrument is used.
- Number – The available range and resolution will depend on the type of gas sensor.

To configure the low alarm, double-click in the field to highlight the number and enter a new value or use the up and down arrows to increase or decrease this value.

3.2.6 High Alarm

⚠ WARNING

> Alarm values are set based on the alarm standard that are required by international standards. Therefore, alarm values should be changed only under the responsibility and approval of the administration of the work site where the instrument is used.

Dictates the high alarm setpoint. When gas concentration becomes greater than this setpoint, the high alarm activates.

High Alarm Options:

- n/a – The high alarm is disabled.
  WARNING: Disabling the High Alarm is not recommended. Alarm values should be changed only under the responsibility and approval of the administration of the work site where the instrument is used.
- Number range – The available range and resolution will depend on the type of gas sensor.

To configure the high alarm, double-click in the field to highlight the number and enter a new value or use the up and down arrows to increase or decrease this value.

3.2.7 Cal (Calibration) Concentration

Changes the required calibration gas concentration for the sensor.

Cal Concentration Options:

- Number range – The available range and resolution will depend on the type of gas sensor.
  Note: The calibration gas value is displayed in the measurement units of the specific gas sensor type. (i.e. ppm for CO/H_2S and % Vol for O_2)

To configure the Cal concentration, double-click in the field to highlight the number and enter a new value or use the up and down arrows to increase or decrease this value.

3.2.8   Cal Time (sec)

⚠ WARNING
Do not adjust the calibration time unless instructed to do so by the factory.

Dictates the duration in seconds that the device will take to calibrate.

Cal Time Options:

- n/a
- 1-300 – Number of seconds required for calibration.

To configure Cal time, double-click in the field to highlight the number and enter a new value or use the up and down arrows to increase or decrease this value.

3.2.9   Cal Interval (day)

Dictates the number of days after which the PM$_{100}$ monitor will display a calibration alert and require calibration.

Cal Interval Options:

- n/a – Calibration alerts will be disabled.

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- 1-365 – Number of days between calibration alerts.

To configure Cal Interval, double-click in the field to highlight the number and enter a new value or use the up and down arrows to increase or decrease this value.

NOTE: For more information on Cal due, see the PM$_{100}$ Manual.

3.2.10 Bump Interval (day)

Dictates the number of days after which the PM$_{100}$ monitor will display a Bump Test alert and require a bump test.

Bump Interval Options:

- n/a – Bump test alerts will be disabled.
- 1-365 – Number of days between bump test alerts.

To configure bump interval, double-click in the field to highlight the number and enter a new value or use the up and down arrows to increase or decrease this value.

NOTE: For more information on Bump Test due, see the PM$_{100}$ Manual.

3.3 PM$_{400}$ Configuration Options

If a configuration from a PM$_{400}$ monitor is loaded into the software, the PM Link software display updates to reflect the current configuration. The PM$_{400}$ interface is shown below.
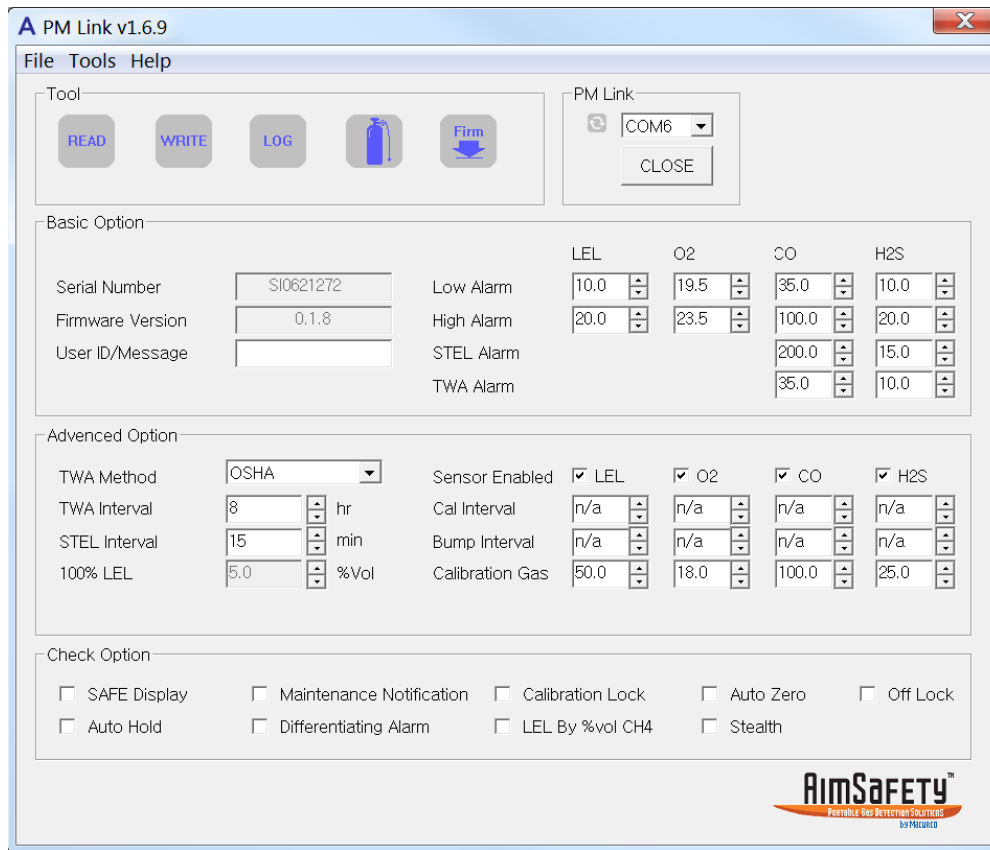
3.3.1   Basic Options
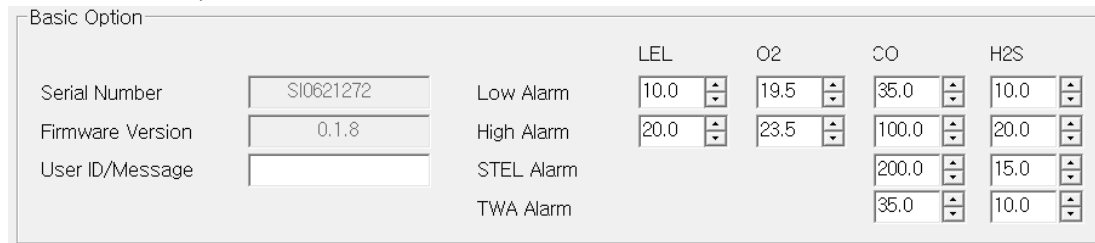
3.3.1.1   User ID/Message

To configure User Id/Message:

1. Highlight the contents of the field by double-clicking in it. Press backspace to remove any leading spaces that may be present.
2. Enter up to twelve numbers or letters in the field.

3.3.1.2   Low Alarm

Dictates the Low Alarm setpoint. When gas concentration becomes less than this setpoint, the Low Alarm activates.

Low Alarm Options:

- n/a – The Low Alarm is disabled.
  WARNING: Disabling the Low Alarm is not recommended. Alarm values should be changed only under the responsibility and approval of the administration of the work site where the instrument is used.
- Number – LEL: 0.1 – 100.0% , O_2: 0.1 – 30.0% vol, CO: 0.1 - 500.0 ppm, H_2S: 0.1 – 100.0 ppm

To configure the Low Alarm, double-click in the field to highlight the number and enter a new value or use the up and down arrows to increase or decrease this value.

3.3.1.3 High Alarm

Dictates the High Alarm setpoint. When gas concentration becomes greater than this setpoint, the High Alarm activates.

High Alarm Options:

- n/a – The High Alarm is disabled.
  WARNING: Disabling the High Alarm is not recommended. Alarm values should be changed only under the responsibility and approval of the administration of the work site where the instrument is used.
- Number range – LEL: 0.1 – 100.0% , O_2: 0.1 – 30.0% vol, CO: 0.1 - 500.0 ppm, H_2S: 0.1 – 100.0 ppm

To configure the High Alarm, double-click in the field to highlight the number and enter a new value or use the up and down arrows to increase or decrease this value.

3.3.1.4 STEL Alarm

The Short Term Exposure Limit Alarm is configurable for CO and H_2S. When the average gas concentration over the time period (determined by the STEL Interval, see 3.3.2.3) is greater than this setpoint, the STEL Alarm activates.

STEL Alarm Options:

- n/a – The STEL Alarm is disabled.
- Number range – CO: 0.1 - 500.0 ppm, H_2S: 0.1 – 100.0 ppm

To configure the STEL Alarm, double-click in the field to highlight the number and enter a new value or use the up and down arrows to increase or decrease this value.

3.3.1.5 TWA Alarm

Time Weighted Average Alarm is configurable for CO and H_2S. When the average gas concentration over the time period (determined by the TWA Method and TWA Interval, see 3.3.2.1 and 3.3.2.2) is greater than this setpoint, the TWA Alarm activates.

TWA Alarm Options:

- n/a – The TWA Alarm is disabled.
- Number range – CO: 0.1 - 500.0 ppm, H_2S: 0.1 – 100.0 ppm

To configure the TWA Alarm, double-click in the field to highlight the number and enter a new value or use the up and down arrows to increase or decrease this value.

3.3.2   Advanced Options

3.3.2.1   TWA Method

The Time Weighted Average method determines the method used to calculate the value for the TWA Alarm. It is selectable between OSHA and ACGIH methods.

To configure the TWA Method, click the arrow to open the pulldown menu and select the option you prefer.

3.3.2.2   TWA Interval

Time Weighted Average Interval determines the time period over which the Time Weighted Average will be calculated.

The selectable range is 4-16 hours if OSHA is selected as the TWA Method. If the TWA Method is ACGIH, the TWA Interval will not be changeable and will be set at 16 hours.

To configure TWA Interval, double-click in the field to highlight the number and enter a new value or use the up and down arrows to increase or decrease this value.

3.3.2.3   STEL Interval

The Short Term Exposure Limit Interval determines the period over which the Short Term Exposure Limit is calculated.

The STEL Interval can be set to "n/a" or 5-15 minutes. If it is set to "n/a", the STEL Alarm will be disabled.

To configure STEL Interval, double-click in the field to highlight the number and enter a new value or use the up and down arrows to increase or decrease this value.

3.3.2.4   100% LEL

This feature allows for LEL gas readings based on a specific gas type. The default setting is 5% Vol for Methane indicating that 5% Vol of methane is equal to 100% of the Lower Explosive Limit of the gas.

It can be changed by selecting the LEL % Vol check box on the bottom of the screen (see 3.3.3.6).

3.3.2.5   Sensor Enabled

Each gas sensor on the PM$_{400}$ monitor can be enabled or disabled. Check/uncheck the corresponding box to

enable/disable the gas sensor. If a gas type is disabled, the corresponding options for that gas will turn gray and no longer be changeable.

3.3.2.6   Cal Interval

Determines the number of days after which the PM$_{400}$ monitor will display a calibration alert and require calibration. A Cal Interval can be set for each gas type.

Cal Interval Options:

- n/a – Calibration alerts will be disabled.
- 1-365 – Number of days between calibration alerts.

To configure Cal Interval, double-click in the field to highlight the number and enter a new value or use the up and down arrows to increase or decrease this value.

NOTE: For more information on Cal due, see the PM$_{400}$ Manual.

3.3.2.7   Bump Interval

Determines the number of days after which the PM$_{400}$ monitor will display a Bump Test alert and require a bump test. A Bump Interval can be set for each gas type.

Bump Interval Options:

- n/a – Bump test alerts will be disabled.
- 1-365 – Number of days between Bump test alerts.

To configure Bump Interval, double-click in the field to highlight the number and enter a new value or use the up and down arrows to increase or decrease this value.

NOTE: For more information on Bump Test due, see the PM$_{400}$ Manual.

3.3.2.8   Calibration Gas

Sets the concentration of the gas used for calibration. If a calibration gas is used that does not match the Calibration Gas values, the monitor will not be calibrated correctly.

- n/a – The calibration gas does not include this gas type.
- Number range – LEL: 0.1 – 100.0%, O$_2$: 0.1 – 30.0% vol, CO: 0.1 – 600.0 ppm, H$_2$S: 0.1 – 100.0 ppm

To configure the Calibration Gas, double-click in the field to highlight the number and enter a new value or use the up and down arrows to increase or decrease this value.

3.3.3   Check Options

3.3.3.1 SAFE Display

When the box is checked, the monitor display will read "SAFE ZONE" when no alarm conditions are met.

3.3.3.2 Auto Hold

Check the box to enable "latching alarms" where once an alarm condition is met, the unit will stay in alarm until the alarm has been acknowledged by pressing the function key.

3.3.3.3 Maintenance Notification

Check the box to enable the Calibration and Bump Test Due notifications (see 3.3.2.6 and 3.3.2.7).

3.3.3.4 Differentiating Alarm

When the box is checked, the unit will beep once during alarm for a single gas, twice for two gases, three times for three gases.

3.3.3.5 Calibration Lock

When the box is checked, manual field calibration will be disabled. The monitor can only be calibrated using the PM Link and software or the Bump Test and Calibration Station.

3.3.3.6 LEL by %vol CH4

Check the box to enable a custom setting for the 100% LEL setting (see 3.3.2.4). If this box is left unchecked, the 100% LEL setting will be grayed out and the default value of 5% will be used.

3.3.3.7 Auto Zero

The Auto Zero option sets the sensors to fresh air during the power-on sequence.

NOTE: The detector must only be turned on in a known safe environment with this feature enabled.

3.3.3.8 Stealth

Stealth mode disables all audible, vibrating, and LED alarms. If set to stealth mode, the PM$_{400}$ monitor display alarm flags are the only indication of an alarm condition.

3.3.3.9 Off Lock

Check Off Lock to prevent the monitor from being turned off. If a user tries to power off the monitor with Off Lock engaged, the screen will flash "OFF LOCK" and continue operating normally.

3.4   Write the New Configuration to the PM Monitor

The PM Link software does not automatically send new settings to the PM monitor.

With the PM monitor in front of the PM Link, click the **WRITE** button in the Tool menu at any time to transfer the new configuration to the PM monitor.
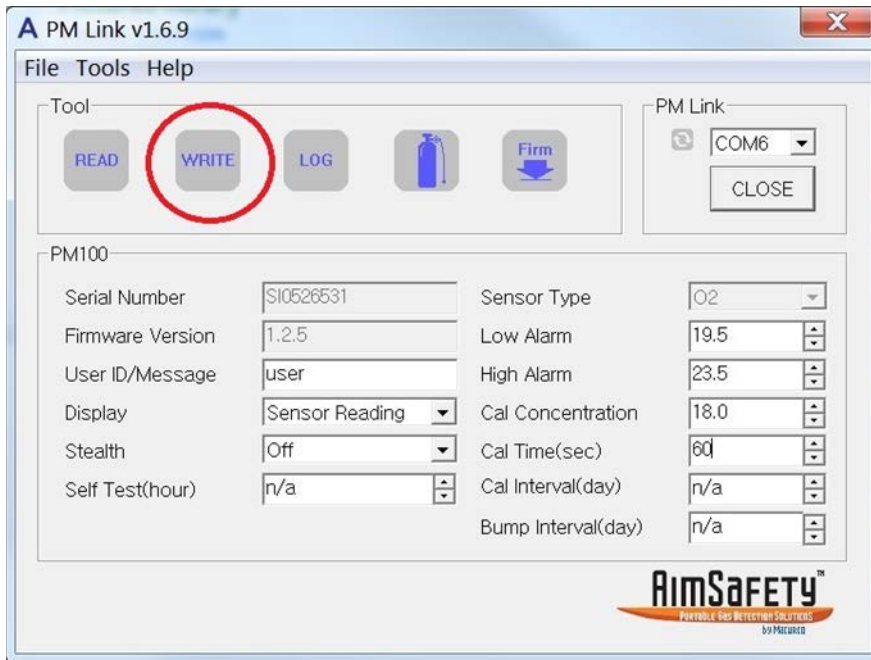
3.5   Save a Configuration to File

To quickly configure multiple PM monitors, it can be useful to save a desired configuration.

To save a configuration to file:

1. click **File** on the menu bar and select **Save** from the dropdown menu.
2. A Save As window will open. **Select a location** you will remember and **name the file**. By default, the file will be saved as a .cfg file.
3. Click **Save**.

4   PM100/400 Calibration

Calibration is the process of adjusting the sensor's response by using a specific concentration of calibration gas.

Over time, sensors will lose accuracy for a variety of reasons. Therefore, it is important to periodically perform a full calibration to ensure the sensor's response to the target gas is accurate.

A full calibration consists of two parts:

1. **Zero Calibration** – Clean air is used to calibrate the sensor (also referred to as fresh air calibration).
2. **Span Calibration** – A known concentration of gas is used to calibrate the sensor.

NOTE: The following calibration instructions assume that the PM Link hardware is "connected to" (communicating over IR with) a PM monitor. See section **Error! Reference source not found. Error! Reference source not found.**.

4.1 Zero Calibration

For the PM$_{100}$, zero calibration will set the zero offset of the toxic sensor or set the oxygen sensor to 20.9% Vol. For the PM$_{400}$, zero calibration will set the zero offset of the toxic and LEL sensor and set the oxygen sensor to 20.9% Vol.

NOTE: Zero calibration must be performed in a clean environment that is free from other gases (calibration is assumed to be performed in an environment with an oxygen concentration of 20.9% Vol.). Never perform a zero calibration in a confined space or in a non-clean air environment.

To Perform a Zero Calibration:

1. Click the Calibration icon in the Tool section of the interface or select Calibration from the Tools dropdown on the menu bar.
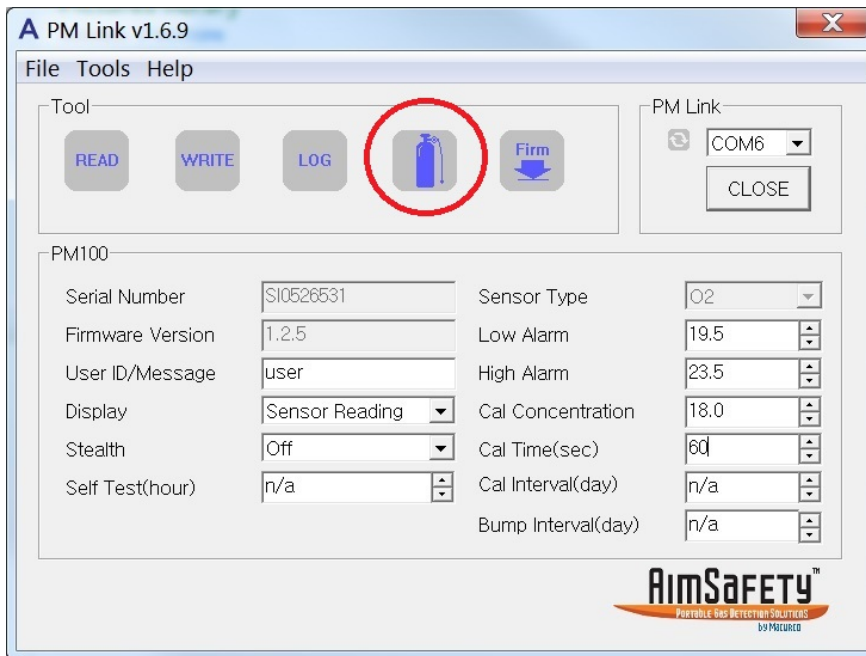
2. The Calibration interface appears. Click the ZERO button.
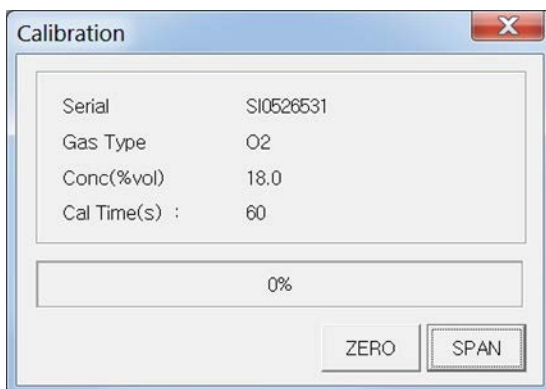
3. A dialog box pops up, asking, "Do you want to start Zero Calibration?" Click Yes to begin Zero Calibration or click No to cancel.
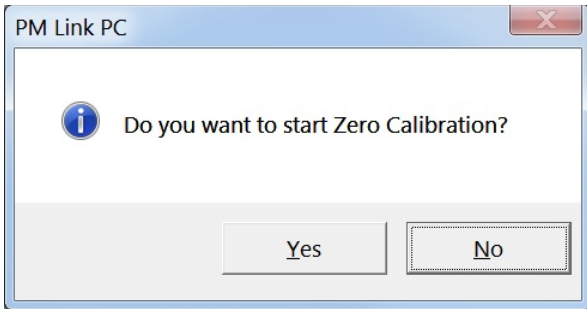
4. When zero calibration starts, the blue light on top of the PM Link device will begin to flash rapidly. The Calibration window will show a ten-second countdown timer. As the timer counts down from ten, the progress meter rises in increments of 10%. When the timer reaches zero and the meter reaches 100%, Zero Calibration is finished.
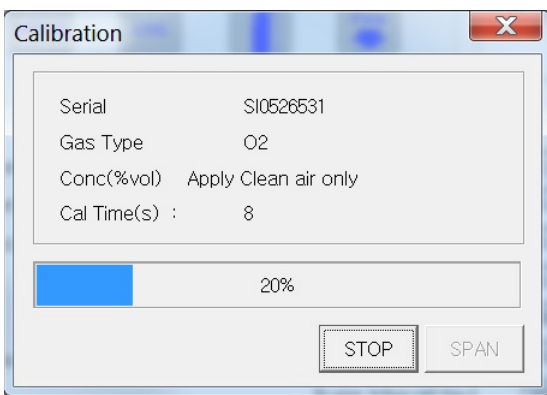
NOTE: To cancel the calibration, click on **STOP.** A new window will pop up. Click <u>Yes</u> to confirm or <u>No</u> to return to the calibration in progress. Clicking the "X" to close the window does not stop the calibration.

5. Once the countdown is complete, a successful zero calibration will be indicated by a message box. Click **OK** to return to the Calibration window.
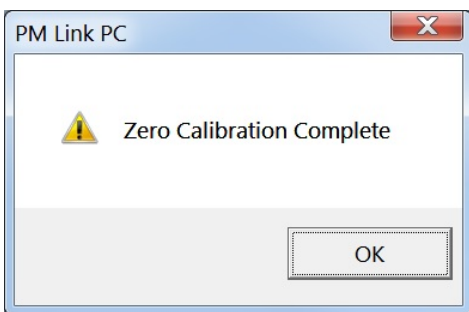
If the calibration fails repeatedly, please contact the sales representative or technical support.

4.2   Span Calibration

Span calibration adjusts the sensors response to gas to account for sensor drift. It is recommended to perform a Zero Calibration prior to a Span Calibration.

To perform a Span Calibration:

1. Attach the calibration cap to the top of the PM monitor's sensor inlet.
2. Connect the hose from the gas regulator of the calibration gas bottle to the calibration cap.
3. Click the Calibration icon in the Tool section of the interface or select Calibration from the Tools dropdown on the menu bar.
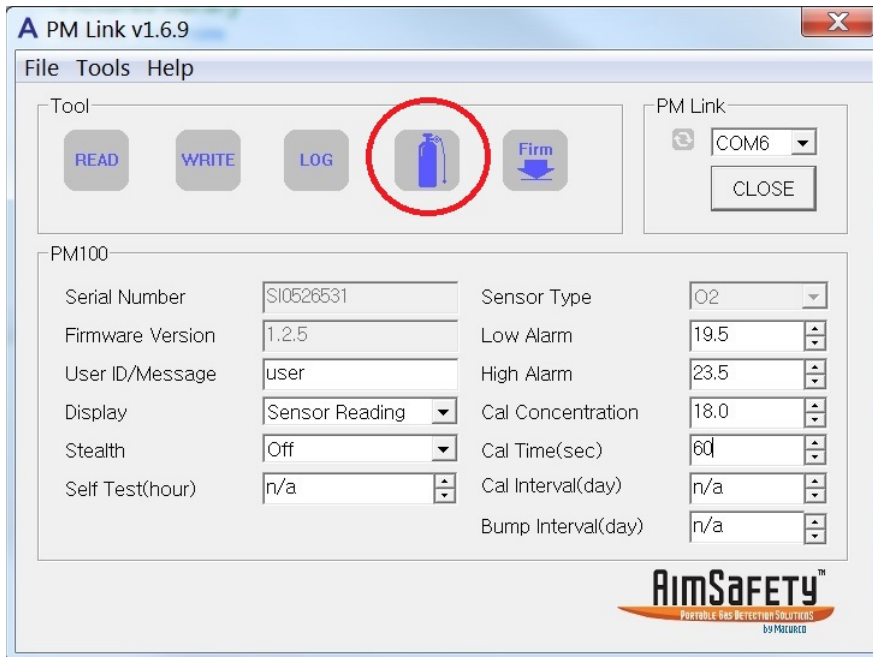
4. The Calibration window appears. Click the SPAN button.
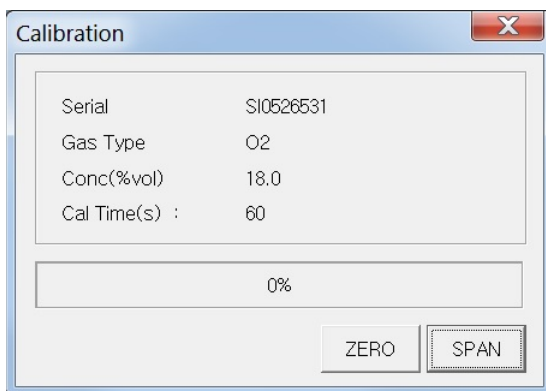
5. A dialog box pops up, asking, "Do you want to start Span Calibration?" Click Yes to begin Span Calibration or click No to cancel and return to the calibration window.
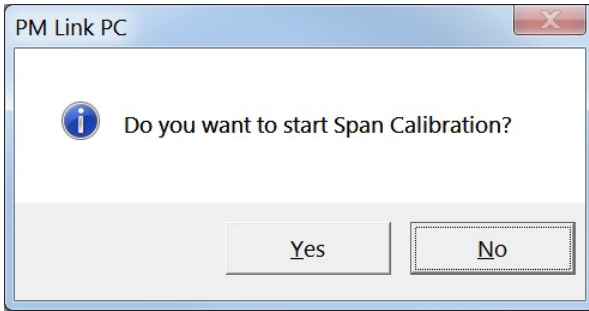
6. When the calibration starts, a countdown timer displays the remaining time. Turn on the calibration gas
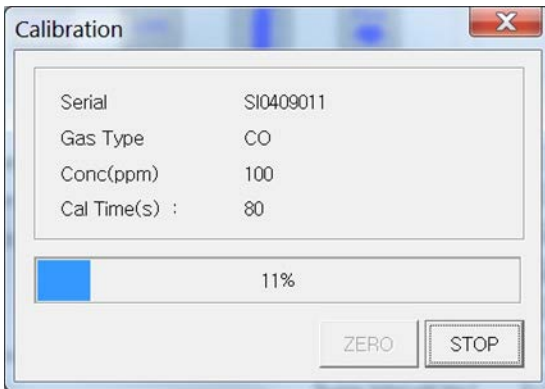
NOTE: To cancel the calibration, click on STOP. A new window will pop up. Click **Yes** to confirm or **No** to return to the calibration in progress. Clicking the X does not stop the calibration.
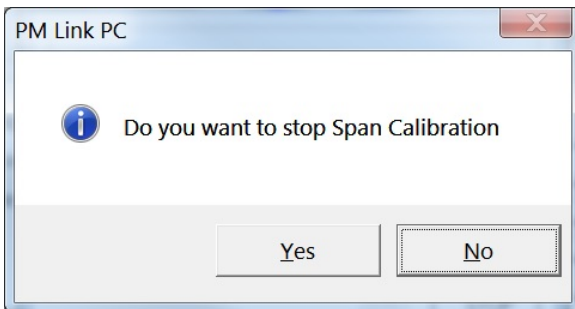
7. Once the countdown reaches zero, the calibration is complete. A completed span calibration will be indicated by a message box. Click **OK** to continue.
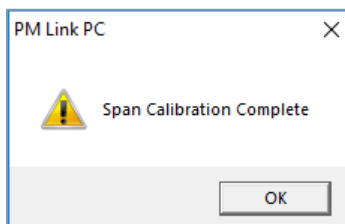
If the calibration fails repeatedly, please contact the sales representative or AimSafety technical support.

8. Turn off the calibration gas and remove the calibration cap.

5 Firmware Upgrade

Firmware is software that's embedded into your hardware. Firmware upgrades are intended to enable or enhance hardware features and improve the user interface. While some firmware updates are more critical than others, it's good practice to keep your firmware updated to the latest version to get the most benefit from your PM monitor.

Your PM monitor's current firmware version is displayed in the PM Link interface.
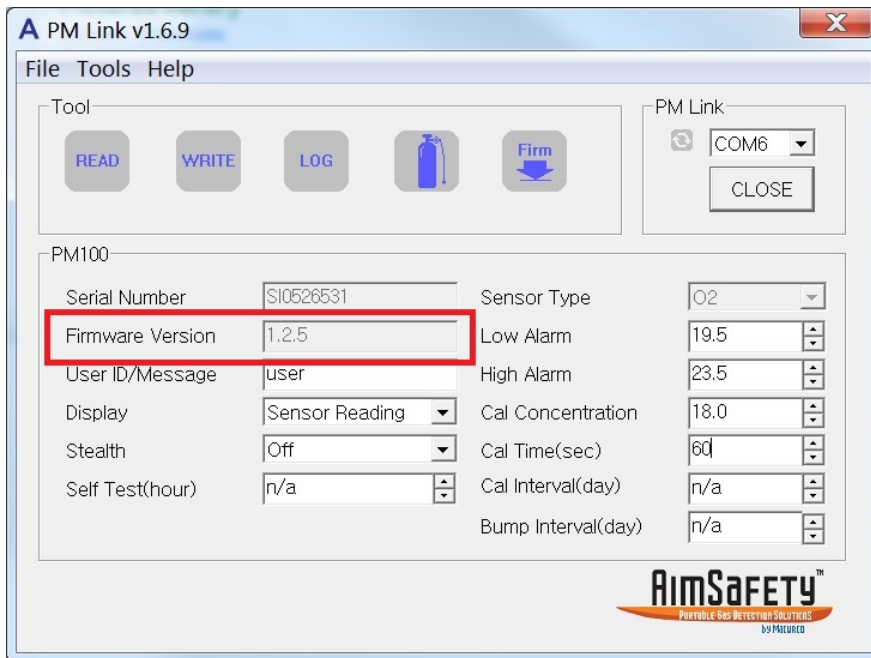
To upgrade the firmware:

1. Download the latest firmware file for your PM monitor from the product page or at https://macurco.com/downloads/. Save it someplace easy to remember.

   NOTE: Make sure to download the firmware for the correct PM monitor model. The wrong firmware won't work. Firmware files follow a specific naming convention as follows:

   PM100 Example:
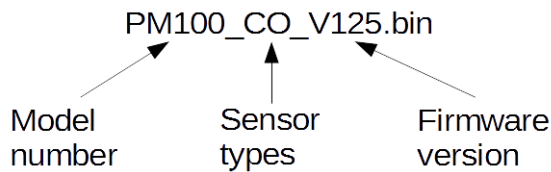
   PM400 Example:
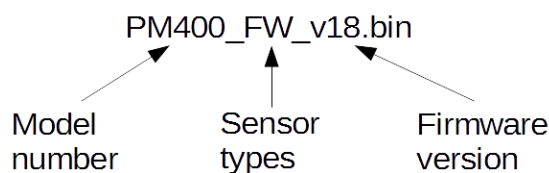
2. Connect the PM monitor to the PM Link as described in section **Error! Reference source not found.**.
3. Click **Firm** in the Tool section of the interface or select **FW Upgrade** from the Tools dropdown menu.
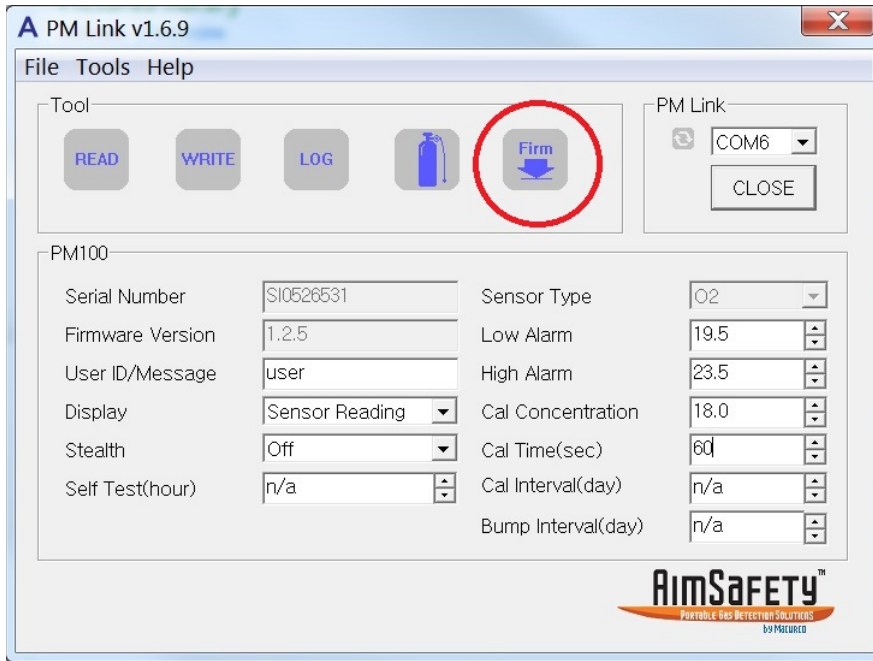
4. The Firmware Upgrade interface appears. Click BROWSE and find the file you saved to your computer in step one.
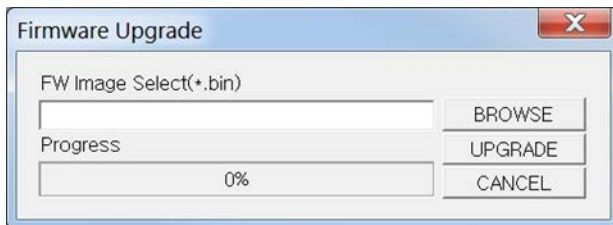
5. Double-click the file. The filename displays in the FW Image Select field.
6. Confirm the PM monitor is positioned correctly to communicate with the PM Link hardware.
7. Click **UPGRADE** to begin the firmware upgrade. The progress meter advances to the right and the percent complete counts upward to 100%.

6 Logging

The PM monitor automatically saves a record of events in the memory. Event logging occurs when:

- an alarm condition is met
- a calibration is performed
- a bump test is performed
- the monitor is turned on or off (PM$_{400}$ only)

The stored log events can be viewed using the PM Link or the Bump Test – Calibration Station. For more information about what is included in the log file, refer to the PM monitor User's Manual.

6.1 PM₁₀₀ Logs

6.1.1 View Log Data

This operation will download and display a list of log events from the PM₁₀₀ monitor and automatically save the log file to the computer.

To view stored log data with the PM Link:

1. Confirm the PM₁₀₀ monitor is positioned correctly to communicate with the PM Link hardware.
2. Click **LOG** in the Tool section of the interface or select **Log Read** from the **Tools** dropdown menu.
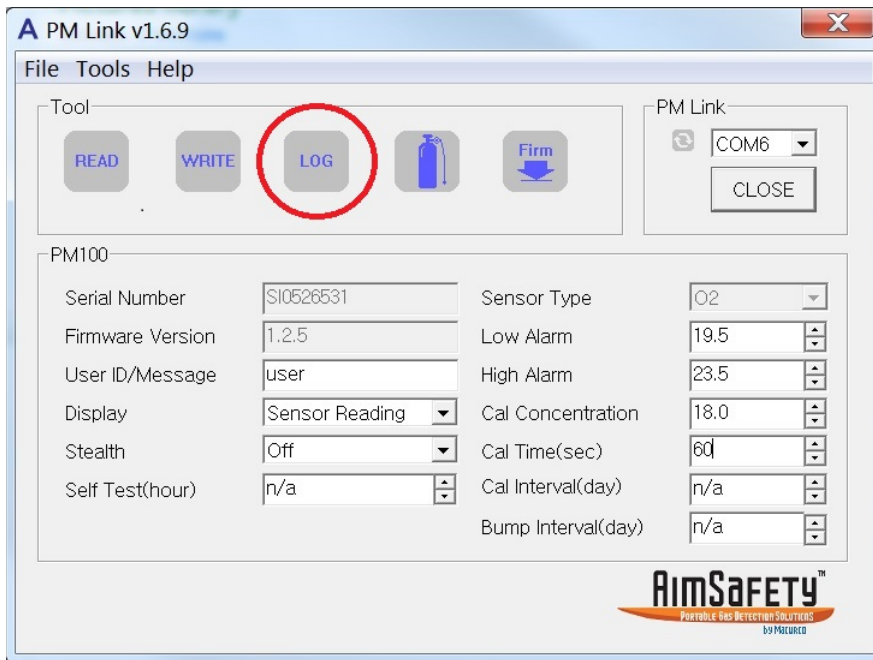
3. The PM Link will read the data from the PM₁₀₀ monitor and the Log window will open. The log events are displayed on the screen and the log files are saved to C:\Program Files (x86)\AimSafety\PM Link\LOG.
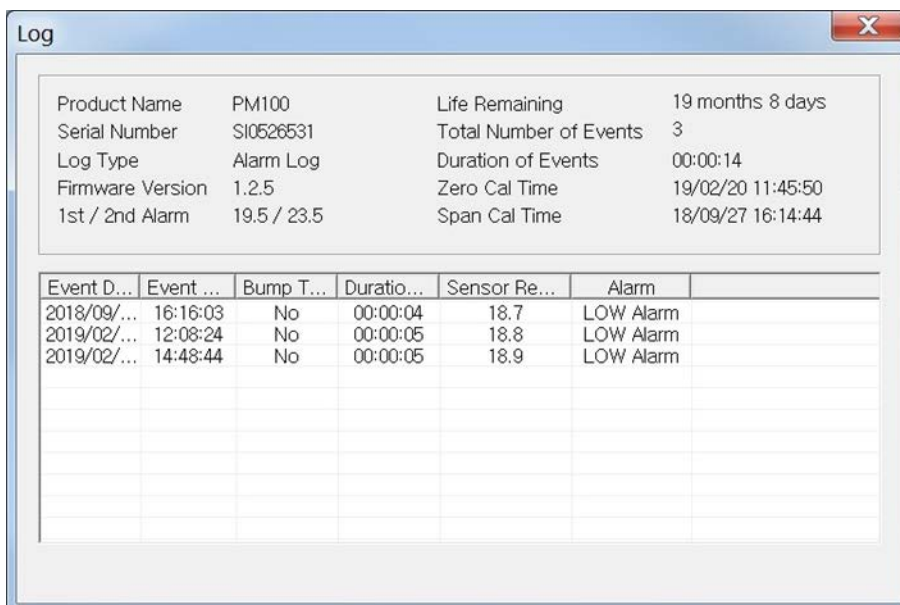
6.1.2   Erase Log Data

This operation will erase the stored log data on the PM_{100} monitor. It will not erase any log files which were previously saved to the computer.

To erase the stored log data:

1. Confirm the PM_{100} monitor is positioned correctly to communicate with the PM Link hardware.
2. Select **Log Erase** from the **Tools** dropdown menu.
3. Click <u>Yes</u> to erase the Log Data.
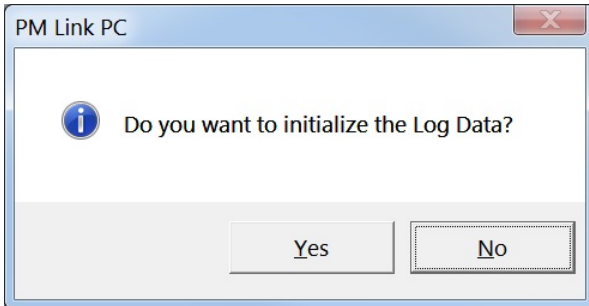
4. The Log Data is erased. Click **OK** to return to the PM Link interface.
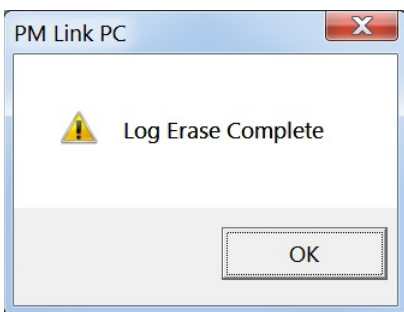
6.2   PM₄₀₀ Logs

6.2.1   Download Log File

The PM_{400} log data can be downloaded using the PM Link.

To download stored log data using the PM Link:

1. Confirm the PM_{400} monitor is positioned correctly to communicate with the PM Link hardware.

2. Click **LOG** in the Tool section of the interface or select **Log Read** from the **Tools** dropdown menu.
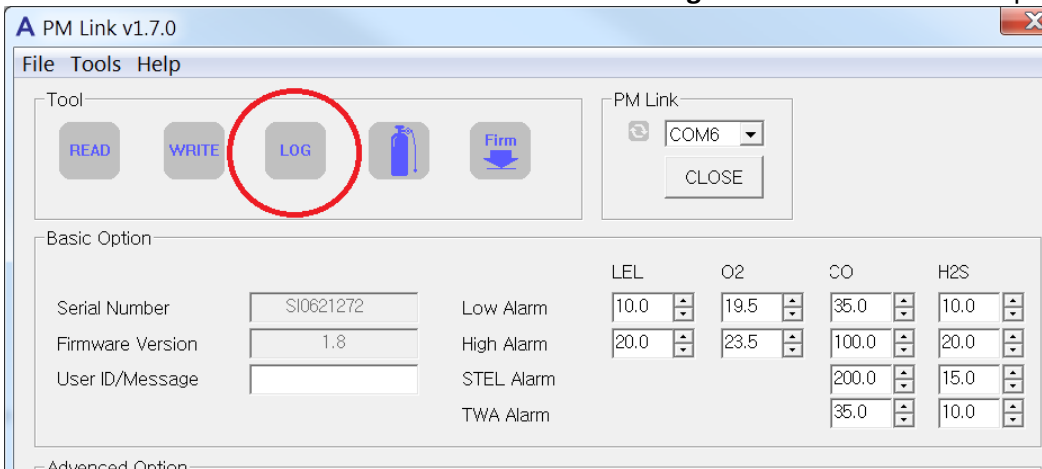
3. The Log Download window will popup. Choose either "Event Log" or "Event + Data Log" from the Log Type dropdown (see 6.2.2 View Log Files for more information).
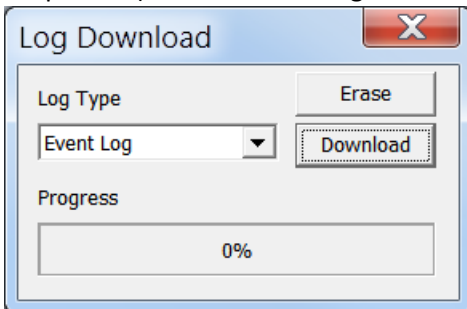
4. Press **Download**.
5. A Browse for Folder window will popup. **Select** a location to save the log file and click **OK**.
6. The progress bar will advance from 0% to 100% as the download takes place. Be sure to keep the IR screens of the PM Link and PM$_{400}$ aligned until the download completes.
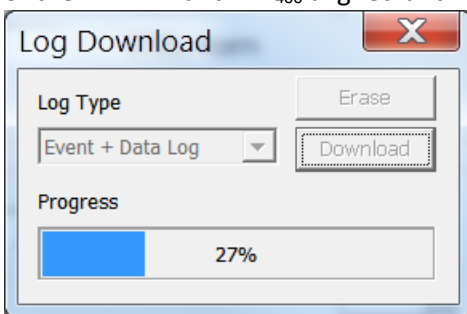
7. A window will popup when the download is complete. Click **OK** to resume other operations.
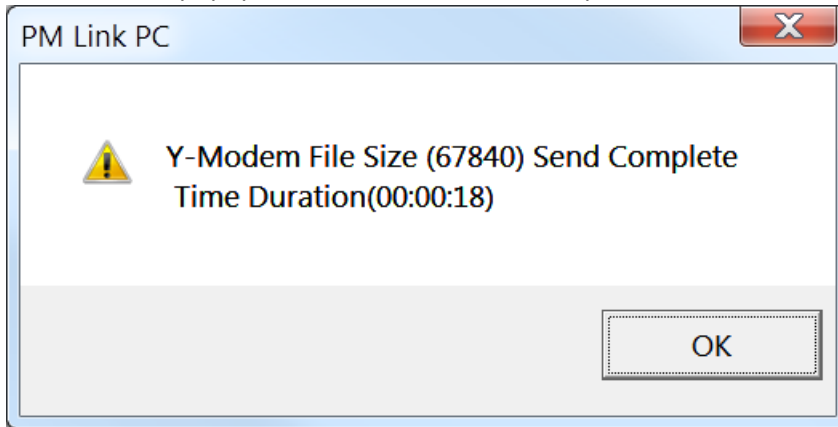
6.2.2   View Log Files

The log file can be viewed using spreadsheet software.

The "Event Log" spreadsheet will include tabs for Event Log, Bump Log, and Calibration Log. The "Event + Data Log" spreadsheet includes the same tabs for Event Log, Bump Log, and Calibration Log. It also includes an additional Data Log tab.

The **Event Log** (see below) tab shows a log of each alarm event.

| Date/Time | Duration | H2S | | CO | | O2 | | LEL | | Serial Number | User Message |
		Concentration (ppm)	Status	Concentration (ppm)	Status	Concentration (%Vol)	Status	Concentration (%LEL)	Status		
2018-03-21 16:46:38	0:00:01	0.0		35.0	LOW Alarm	20.9		0.0		SG1205424	
2018-03-21 16:46:41	0:00:01	0.0		35.0	LOW Alarm	20.9		0.0		SG1205425	
2018-04-04 16:44:11	0:00:34	12.2	LOW Alarm	98.9	HIGH Alarm	17.0	LOW Alarm	50.8	HIGH Alarm	SG1205426	
2018-04-04 16:48:26	0:00:31	14.6	LOW Alarm	99.7	HIGH Alarm	17.0	LOW Alarm	43.0	HIGH Alarm	SG1205427	
2018-04-04 16:51:04	0:00:34	17.9	LOW Alarm	99.9	HIGH Alarm	17.0	LOW Alarm	49.8	HIGH Alarm	SG1205428	
2000-01-01 00:02:30	0:00:01	0.0		0.0		20.9		10.0	LOW Alarm	SG1205429	
2000-01-01 00:02:32	0:00:24	0.0		0.0		20.9		10.0	LOW Alarm	SG1205430	
2000-01-01 00:03:00	0:00:36	0.0		0.0		20.9		10.0	LOW Alarm	SG1205431	
2000-01-01 00:03:37	0:00:08	0.0		0.0		20.9		10.0	LOW Alarm	SG1205432	
2000-01-01 00:03:47	0:00:41	0.0		0.0		20.9		10.0	LOW Alarm	SG1205433	
2019-03-06 22:02:29	0:00:41	24.7	LOW Alarm	100.2	HIGH Alarm	17.0	LOW Alarm	49.8	HIGH Alarm	SG1205434	
2018-02-09 13:36:29	0:00:23	21.5	LOW Alarm	97.6	HIGH Alarm	18.7	LOW Alarm	49.8	HIGH Alarm	SG1205435	
2018-02-22 14:46:49	0:01:18	17.2	LOW Alarm	99.5	HIGH Alarm	17.0	LOW Alarm	46.4	HIGH Alarm	SG1205436	
2018-03-21 13:08:02	0:00:17	0.0		0.0		20.9		15.4	LOW Alarm	SG1205437	

The **Bump Log** (see below) tab shows a log of each bump test.

| Date/Time | Beep | H2S | | | CO | | | O2 | | | LEL | | | Serial Number | User Message |
		Concentration (ppm)	Alarm	Status	Concentration (ppm)	Alarm	Status	Concentration (%Vol)	Alarm	Status	Concentration (%LEL)	Alarm	Status		
2018-02-09 10:30:28	Pass	33.4	HIGH Alarm	Pass	105.4	HIGH Alarm	Pass	16.8	LOW Alarm	Pass	58.8	HIGH Alarm	Pass	SG1205424	

The **Calibration Log** (see below) tab shows a log of each calibration (zero and span calibration).

Date/Time	Cal type	H2S Concentration (ppm)	H2S Status	CO Concentration (ppm)	CO Status	O2 Concentration (%Vol)	O2 Status	LEL Concentration (%LEL)	LEL Status	Serial Number	User Message
2018-02-06 09:07:42	Zero Cal	0.0	Pass	0.0	Pass	20.9	Pass	0.0	Pass	SG1205424	
2018-02-06 09:09:23	Zero Cal	0.0	Pass	0.0	Pass	20.9	Pass	0.0	Pass	SG1205425	
2018-02-06 09:10:44	Zero Cal	0.0	Pass	0.0	Pass	20.9	Pass	0.0	Pass	SG1205426	
2018-02-06 13:42:26	Zero Cal	0.0	Pass	0.0	Pass	20.9	Pass	0.0	Pass	SG1205427	
2018-02-06 13:44:07	Span Cal	25.0	Pass	100.2	Pass	17.0	Pass	48.2	Pass	SG1205428	
2018-02-09 10:36:58	Span Cal	25.0	Pass	100.2	Pass	17.0	Pass	56.4	Pass	SG1205429	
2018-02-09 13:33:50	Zero Cal	0.0	Pass	0.0	Pass	20.9	Pass	0.0	Pass	SG1205430	
2018-02-09 13:36:21	Span Cal	25.0	Pass	100.2	Pass	17.0	Pass	45.2	Pass	SG1205431	
2018-04-04 13:29:32	Zero Cal	0.0	Pass	0.0	Pass	20.9	Pass	0.0	Fail	SG1205432	
2018-04-04 13:31:20	Span Cal	0.0	Pass	0.0	Pass	20.9	Pass	0.0	Pass	SG1205433	
2018-04-04 16:44:04	Span Cal	12.3	Pass	100.1	Pass	17.0	Pass	50.4	Pass	SG1205434	
2018-04-04 16:48:19	Span Cal	14.8	Pass	100.1	Pass	17.0	Pass	50.4	Pass	SG1205435	
2018-04-04 16:50:57	Span Cal	18.0	Pass	100.1	Pass	17.0	Pass	44.8	Pass	SG1205436	
2018-04-04 17:09:08	Zero Cal	0.0	Pass	0.0	Pass	20.9	Pass	0.0	Fail	SG1205437	

The **Data Log** (see 3 images below) tab shows a log of all configurable settings and sensor readings each time any data is logged.

Date/Time	Event	Unit Status	LEL %LEL	LEL Status	O2 %vol	O2 Status	CO ppm	CO TWA	CO STEL	CO Status	H2S ppm	H2S TWA	H2S STEL	H2S Status	Serial Number	User M...
2000-01-01 00:00:38	Power On														SG1205424	
2000-01-01 00:01:44		Charging	9.6		20.9		0.0	0.0	0.0		0.0	0.0	0.0		SG1205425	
2000-01-01 00:02:27		Charging	9.8		20.9		0.0	0.0	0.0		0.0	0.0	0.0		SG1205426	
2000-01-01 00:02:30		Charging	10.0	LOW Alarm	20.9		0.0	0.0	0.0		0.0	0.0	0.0		SG1205427	
2000-01-01 00:02:31		Charging	9.8		20.9		0.0	0.0	0.0		0.0	0.0	0.0		SG1205428	
2000-01-01 00:02:32		Charging	10.0	LOW Alarm	20.9		0.0	0.0	0.0		0.0	0.0	0.0		SG1205429	
2000-01-01 00:02:56		Charging	9.8		20.9		0.0	0.0	0.0		0.0	0.0	0.0		SG1205430	
2000-01-01 00:03:00		Charging	10.0	LOW Alarm	20.9		0.0	0.0	0.0		0.0	0.0	0.0		SG1205431	
2000-01-01 00:03:36		Charging	9.8		20.9		0.0	0.0	0.0		0.0	0.0	0.0		SG1205432	
2000-01-01 00:03:37		Charging	10.0	LOW Alarm	20.9		0.0	0.0	0.0		0.0	0.0	0.0		SG1205433	
2000-01-01 00:03:45		Charging	9.8		20.9		0.0	0.0	0.0		0.0	0.0	0.0		SG1205434	
2000-01-01 00:03:47		Charging	10.0	LOW Alarm	20.9		0.0	0.0	0.0		0.0	0.0	0.0		SG1205435	
2000-01-01 00:04:28		Charging	9.8		20.9		0.0	0.0	0.0		0.0	0.0	0.0		SG1205436	
2000-01-01 00:04:39		Charging	9.8	Zero Cal	20.9	Zero Cal	0.0	0.0	0.0	Zero Cal	0.0	0.0	0.0	Zero Cal	SG1205437	
2000-01-01 00:04:53		Charging	0.0	Zero Cal	20.9	Zero Cal	0.0	0.0	0.0	Zero Cal	0.0	0.0	0.0	Zero Cal	SG1205438	
2000-01-01 00:04:56		Charging	0.0		20.9		0.0	0.0	0.0		0.0	0.0	0.0		SG1205439	
2000-01-01 01:00:00		Charging	0.0		20.9		0.0	0.0	0.0		0.0	0.0	0.0		SG1205440	
2000-01-01 02:00:00		Charging	0.0		20.9		0.0	0.0	0.0		0.0	0.0	0.0		SG1205441	

Unit Options User Message	SAFE	Calibration Lock	Stealth	Maintenance Notification	Off Lock	LEL by-%vol Display	TWA method	Auto-zero	Auto Hold	Differentiating Alarm	LEL Option Cal Interval	Last Calibration	Bump Interval	Last Bump	LOW Alarm	HIGH Alarm	Sensor Enabled	O2 Option Cal Interval	Last Calibration	Bump Interval	Last Bump
	F	F	F	T	F	F	OSHA	F	F	F	0	00-04-04	1	2000-00-00	10.0	30.0	T	0	00-04-04	1	2000-00-00
	F	F	F	T	F	F	OSHA	F	F	F	0	00-04-04	1	2000-00-00	10.0	30.0	T	0	00-04-04	1	2000-00-00
	F	F	F	T	F	F	OSHA	F	F	F	0	00-04-04	1	2000-00-00	10.0	30.0	T	0	00-04-04	1	2000-00-00
	F	F	F	T	F	F	OSHA	F	F	F	0	00-04-04	1	2000-00-00	10.0	30.0	T	0	00-04-04	1	2000-00-00
	F	F	F	T	F	F	OSHA	F	F	F	0	00-04-04	1	2000-00-00	10.0	30.0	T	0	00-04-04	1	2000-00-00
	F	F	F	T	F	F	OSHA	F	F	F	0	00-04-04	1	2000-00-00	10.0	30.0	T	0	00-04-04	1	2000-00-00
	F	F	F	T	F	F	OSHA	F	F	F	0	00-04-04	1	2000-00-00	10.0	30.0	T	0	00-04-04	1	2000-00-00
	F	F	F	T	F	F	OSHA	F	F	F	0	00-04-04	1	2000-00-00	10.0	30.0	T	0	00-04-04	1	2000-00-00
	F	F	F	T	F	F	OSHA	F	F	F	0	00-04-04	1	2000-00-00	10.0	30.0	T	0	00-04-04	1	2000-00-00
	F	F	F	T	F	F	OSHA	F	F	F	0	00-04-04	1	2000-00-00	10.0	30.0	T	0	00-04-04	1	2000-00-00
	F	F	F	T	F	F	OSHA	F	F	F	0	00-04-04	1	2000-00-00	10.0	30.0	T	0	00-04-04	1	2000-00-00
	F	F	F	T	F	F	OSHA	F	F	F	0	00-04-04	1	2000-00-00	10.0	30.0	T	0	00-04-04	1	2000-00-00
	F	F	F	T	F	F	OSHA	F	F	F	0	00-04-04	1	2000-00-00	10.0	30.0	T	0	00-04-04	1	2000-00-00
	F	F	F	T	F	F	OSHA	F	F	F	0	00-04-04	1	2000-00-00	10.0	30.0	T	0	00-04-04	1	2000-00-00
	F	F	F	T	F	F	OSHA	F	F	F	0	00-04-04	1	2000-00-00	10.0	30.0	T	0	00-04-04	1	2000-00-00

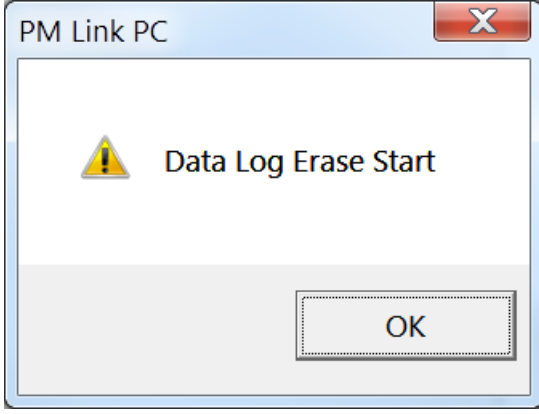| ption							CO Option											H2S Option							
Last Bump	LOW Alarm	HIGH Alarm	Sensor Enabled	Cal Interval	Last Calibration	Bump Interval	Last Bump	LOW Alarm	HIGH Alarm	TWA Alarm	STEL Alarm	TWA Interval	STEL Interval	Sensor Enabled	Cal Interval	Last Calibration	Bump Interval	Last Bump	LOW Alarm	HIGH Alarm	TWA Alarm	STEL Alarm	TWA Interval	STEL Interval	Sensor Enabled
2000-00-00	19.5	23.0	T	0	00-04-04	1	2000-00-00	35.0	60.0	60.0	30.0	8	15	T	0	00-04-04	1	2000-00-00	10.0	30.0	30.0	10.0	8	15	T
2000-00-00	19.5	23.0	T	0	00-04-04	1	2000-00-00	35.0	60.0	60.0	30.0	8	15	T	0	00-04-04	1	2000-00-00	10.0	30.0	30.0	10.0	8	15	T
2000-00-00	19.5	23.0	T	0	00-04-04	1	2000-00-00	35.0	60.0	60.0	30.0	8	15	T	0	00-04-04	1	2000-00-00	10.0	30.0	30.0	10.0	8	15	T
2000-00-00	19.5	23.0	T	0	00-04-04	1	2000-00-00	35.0	60.0	60.0	30.0	8	15	T	0	00-04-04	1	2000-00-00	10.0	30.0	30.0	10.0	8	15	T
2000-00-00	19.5	23.0	T	0	00-04-04	1	2000-00-00	35.0	60.0	60.0	30.0	8	15	T	0	00-04-04	1	2000-00-00	10.0	30.0	30.0	10.0	8	15	T
2000-00-00	19.5	23.0	T	0	00-04-04	1	2000-00-00	35.0	60.0	60.0	30.0	8	15	T	0	00-04-04	1	2000-00-00	10.0	30.0	30.0	10.0	8	15	T
2000-00-00	19.5	23.0	T	0	00-04-04	1	2000-00-00	35.0	60.0	60.0	30.0	8	15	T	0	00-04-04	1	2000-00-00	10.0	30.0	30.0	10.0	8	15	T
2000-00-00	19.5	23.0	T	0	00-04-04	1	2000-00-00	35.0	60.0	60.0	30.0	8	15	T	0	00-04-04	1	2000-00-00	10.0	30.0	30.0	10.0	8	15	T
2000-00-00	19.5	23.0	T	0	00-04-04	1	2000-00-00	35.0	60.0	60.0	30.0	8	15	T	0	00-04-04	1	2000-00-00	10.0	30.0	30.0	10.0	8	15	T
2000-00-00	19.5	23.0	T	0	00-04-04	1	2000-00-00	35.0	60.0	60.0	30.0	8	15	T	0	00-04-04	1	2000-00-00	10.0	30.0	30.0	10.0	8	15	T
2000-00-00	19.5	23.0	T	0	00-04-04	1	2000-00-00	35.0	60.0	60.0	30.0	8	15	T	0	00-04-04	1	2000-00-00	10.0	30.0	30.0	10.0	8	15	T
2000-00-00	19.5	23.0	T	0	00-04-04	1	2000-00-00	35.0	60.0	60.0	30.0	8	15	T	0	00-04-04	1	2000-00-00	10.0	30.0	30.0	10.0	8	15	T
2000-00-00	19.5	23.0	T	0	00-04-04	1	2000-00-00	35.0	60.0	60.0	30.0	8	15	T	0	00-04-04	1	2000-00-00	10.0	30.0	30.0	10.0	8	15	T
2000-00-00	19.5	23.0	T	0	00-04-04	1	2000-00-00	35.0	60.0	60.0	30.0	8	15	T	0	00-04-04	1	2000-00-00	10.0	30.0	30.0	10.0	8	15	T
2000-00-00	19.5	23.0	T	0	00-04-04	1	2000-00-00	35.0	60.0	60.0	30.0	8	15	T	0	00-04-04	1	2000-00-00	10.0	30.0	30.0	10.0	8	15	T
2000-00-00	19.5	23.0	T	0	00-04-04	1	2000-00-00	35.0	60.0	60.0	30.0	8	15	T	0	00-04-04	1	2000-00-00	10.0	30.0	30.0	10.0	8	15	T
2000-00-00	19.5	23.0	T	0	00-04-04	1	2000-00-00	35.0	60.0	60.0	30.0	8	15	T	0	00-04-04	1	2000-00-00	10.0	30.0	30.0	10.0	8	15	T
2000-00-00	19.5	23.0	T	0	00-04-04	1	2000-00-00	35.0	60.0	60.0	30.0	8	15	T	0	00-04-04	1	2000-00-00	10.0	30.0	30.0	10.0	8	15	T

6.2.3 Erase Log Data

This operation will erase the stored log data on the PM_{400} monitor. It will not erase any log files which were previously saved to the computer.

To erase the stored log data:

1. Confirm the PM_{400} monitor is positioned correctly to communicate with the PM Link hardware.
2. Select **Log Erase** from the **Tools** dropdown menu.
   Alternatively, click **LOG** in the Tool section of the interface. Then, click **Erase**.
3. Click **Yes** to erase the Log Data.

PM Link PC

Do you want to initialize the Log Data?

Yes   No
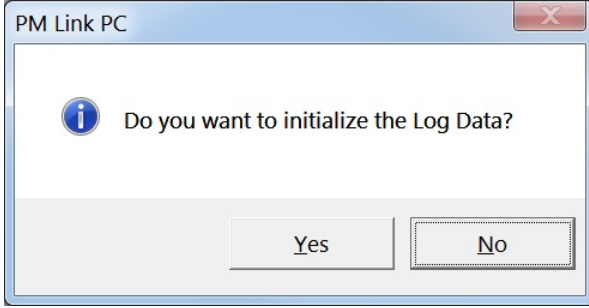
4. The data is erased. Click **OK** to resume other operations.

PM Link PC

Data Log Erase Start

OK

7   Product limited warranty

AimSafety warrants this product will be free from defective materials and workmanship for a period of two (2) years from date of manufacture, provided it is maintained and used in accordance with AimSafety instructions and/or recommendations. If any component becomes defective during the warranty period, it will be replaced or repaired free of charge, if the unit is returned in accordance with the instructions below. This warranty does not apply to units that have been altered or had repair attempted, or that have been subjected to abuse, accidental or otherwise. The above warranty is in lieu of all other express warranties, obligations or liabilities. THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR PARTICULAR PURPOSE ARE LIMITED TO A PERIOD OF TWO (2) YEARS FROM THE PURCHASE DATE. AimSafety shall not be liable for any incidental or consequential damages for breach of this or any other warranty, express or implied, arising out of or related to the use of said gas PM monitor. Manufacturer or its agent's liability shall be limited to replacement or repair as set forth above. Buyer's sole and exclusive remedies are return of the goods and repayment of the price, or repair and replacement of non-conforming goods or parts.

Warranty Procedure

Contact the local AimSafety authorized reseller or AimSafety Technical Support to obtain a Return Materials Authorization (RMA).

AimSafety by Macurco

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