04 Series Datalogging Program Operator's Manual

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CAUTION: *Read and understand this manual before using the 04 Series Datalogging Program. Also read and understand the 04 Series Operator's Manual included with the 04 Series portable gas detection unit.*

Chapter 1: Introduction

Overview

The 04 Series Datalogging Program downloads stored data from the 04 Series to a Windows-based PC. Data can be viewed, saved, or printed using your computer and the 04 Series Datalogging Program.

The purpose of this manual is to explain how to use and set up the 04 Series Datalogging Program. You will learn how to:

- install and launch the software
- install the downloading cable (if needed)
- access and store data in a shared database
- download data from the 04 Series
- view, print, and save data
- change data logging parameters
- create user and station IDs
- change the appearance of the program screens
- change the color of graphed readings

Before you get started, be sure to review the system requirements in the next section.

CAUTION: *The 04 Series detects oxygen deficiency and elevated levels of oxygen, carbon monoxide, hydrogen sulfide, or other toxic gases all of which can be dangerous or life threatening. When using the 04 Series, you must follow the instructions and warnings in the 04 Series Operator's Manual to assure proper and safe operation of the unit and to minimize the risk of personal injury.*

CAUTION: *The operator of this instrument is advised that if the equipment is used in a manner not specified in this manual, the protection provided by the equipment may be impaired.*

System Requirements

To use the 04 Series Datalogging Program, your personal computer must meet the following requirements:

- **Operating Systems:** Windows® 7, Windows® 8, or Windows® 10

- **Processor:** IBM® compatible PC running Pentium® 2 or higher.

- **Memory:** 32 MB RAM minimum

- **Available Hard Disk Space:** 32 MB minimum

- Infrared port or USB port and a USB/IrDA adapter cable

04 Series Data Logging Capacity

Table 1 below lists the 04 Series' data logging capacity for each interval trend time setting assuming no alarms or other events. See pg. 41 to change the interval trend time.

Table 1: 04 Series Data Logging Capacity

Interval Trend Time	Data Logging Hours
10 seconds	10 hours
20 seconds	20 hours
30 seconds	30 hours
60 seconds	60 hours
180 seconds (3 minutes)	180 hours
300 seconds (5 minutes)	300 hours
600 seconds (10 minutes)	600 hours

When Datalogging Memory Gets Full

When the instrument's data logging memory becomes full, it begins to overwrite the oldest interval trend, alarm trend, event, and calibration data with new data.

Chapter 2: Setup

Installing the 04 Series Datalogging Program

1. Launch Windows®.

2. Exit from all applications and open windows.

3. Go to www.rkiinstruments.com/04series.

4. Click on the **Download** tab.

5. Click the **04 Series Datalogging Program** link.

6. A .zip file will begin to download. Select whether you want to open or save the .zip file.

7. Extract the contents of the .zip file.

8. Double click the **setup.exe** file.

9. Follow the on-screen instructions in the InstallShield Wizard Window to install the program.

10. If the InstallShield Wizard finds versions of Windows® files on your computer newer than those in the downloaded .zip file, it will ask you if you want to keep these newer files. Click **Yes**.

11. When the InstallShield Wizard indicates that installation is complete, click the **Finish** button.

Setting Up a Shared Database

By default, the Datalogging Program stores its database on the computer's hard drive. In a company with multiple computers, each computer's database is independent of the others which means data cannot be shared.

However, it's possible to map each computer to a shared database on a network. All computers can then add data to and view data from the same database.

NOTE: Only one computer can access the shared database at once. If one computer is using the database and another computer tries to access the same database, that second computer displays an error at program launch.

1. Note the shared database location's file path. The location must be somewhere that all computers can access. This section will use a shared Engineering Drive as an example.

2. If the Datalogging Program hasn't been launched on the computer yet, launch and close the program.

3. Search your C drive for "GP04.ini".
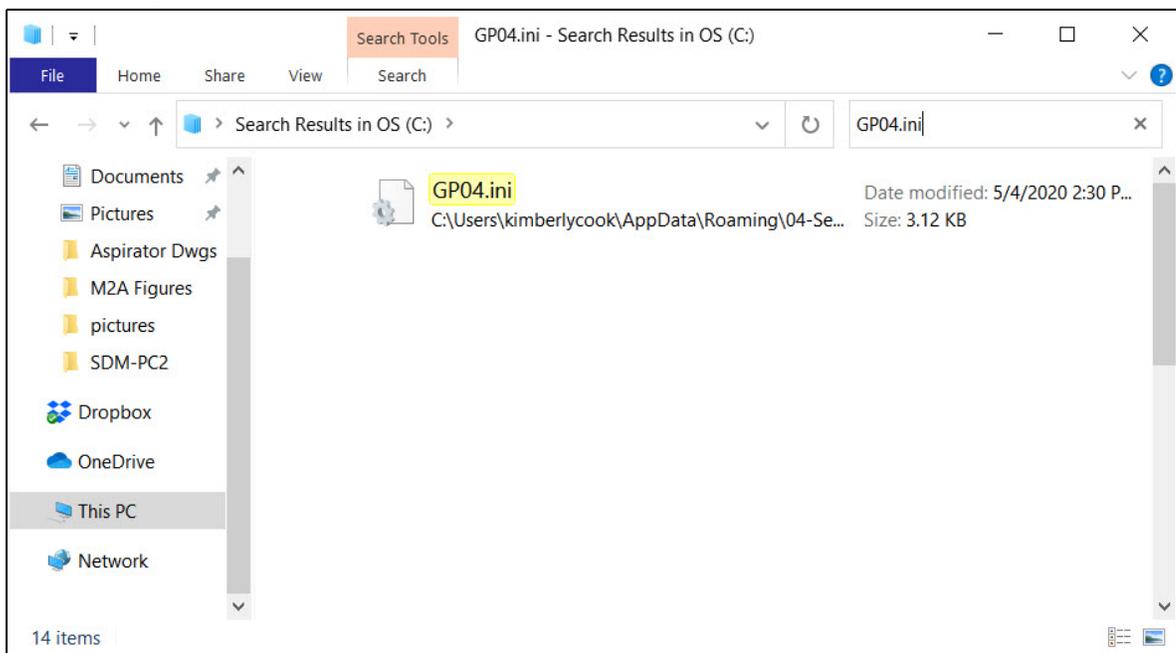
Figure 1: GP04.ini File Found on C Drive

4. Double click the GP04.ini file and open it in Notepad.

5. Scroll down to the very last line, called DataLocation. An example of a local, unshared file path is shown below.
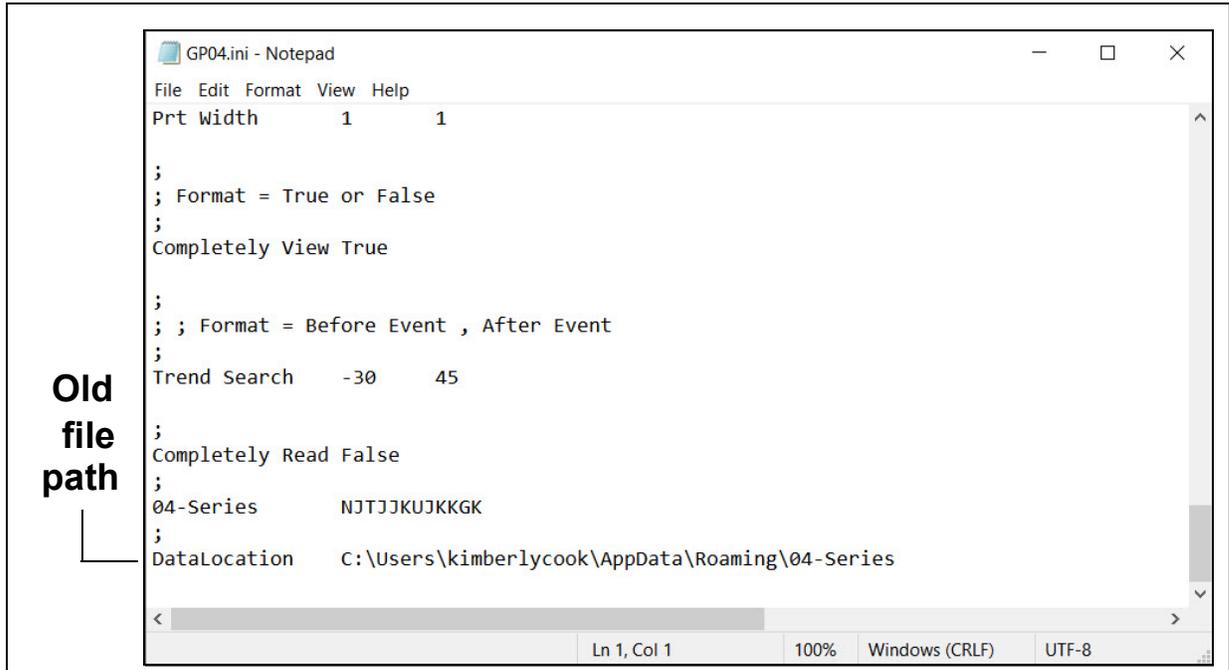

Figure 2: GP04.ini File with Original Path

6. Replace the local, unshared path with the shared path. In the example below, "N:" is the shared Engineering Drive.
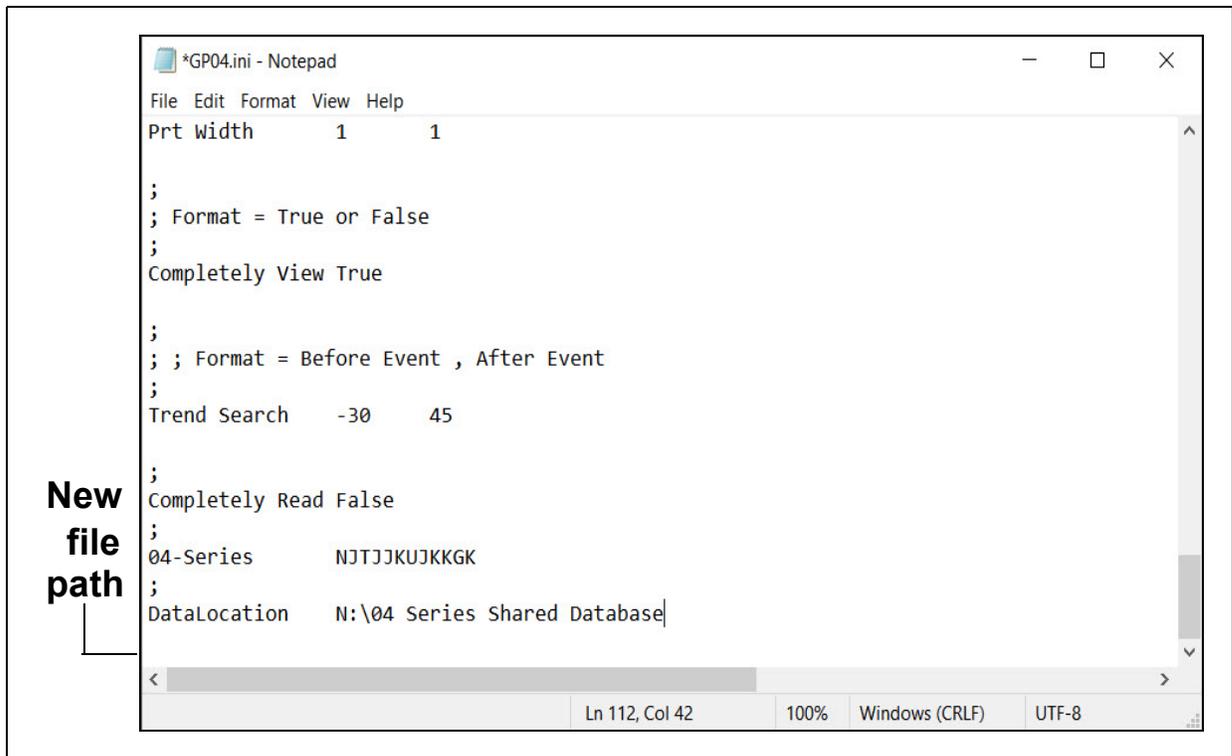
Figure 3: GP04.ini File with New Path

7. Save the file and reopen the Datalogging Program.

8. When you launch the program again, a database is created in the specified location.

9. Repeat step 2 - step 7 for all computers that need access to the shared database.

IrDA Downloading Cable

The instrument uses an on-board infrared port to communicate with a computer. The port complies with IrDA 1.1 protocol standards.

NOTE: If your computer has a built-in infrared port that complies with IrDA 1.1 protocol, you do not need an adapter cable to download data.

If your computer does not have an infrared port, you will need to install an IrDA 1.1 compliant IrDA/USB adapter cable on your computer. See pg. 53 for the RKI part number.

Installing an IrDA Adapter Cable

NOTE: Do not plug the IrDA/USB adapter cable into your computer before installing the driver.

Follow the manufacturer's instructions for installing the cable on your computer. If you do not have instructions from the cable manufacturer for installing your cable, see your Windows documentation. In general, you must go to the Control Panel and use the Add Hardware Wizard to install the cable drivers. RKI makes no warranty for the operation or compatibility of the drivers with any particular device.

Windows® Infrared Operation Note

Before attempting to use the Datalogging Program with an IrDA adapter cable, you must confirm or change a setting in the Infrared Configuration window.

NOTE: If you have a Windows 7 computer, the Infrared Configuration window may not appear. If the Infrared Configuration window does not appear, disregard the directions below.

1. Click **Start** on the Windows® Icon Tray.

2. If **Control Panel** is available to select in the **Start** menu, select it.

   If **Control Pane**l is not selectable in the Start menu but **Settings** is, select **Settings**, then select **Control Panel**.

3. If the Control Panel is viewed by category, open the **Hardware and Sound** folder then click "Send or Receive a File" under the **Infrared** section.

    If the Control Panel is viewed by icon, click the **Infrared** icon.

4. Click on the Image Transfer tab.

5. Deselect the selection box for "Allow digital cameras to use infrared to transfer images directly to my computer".
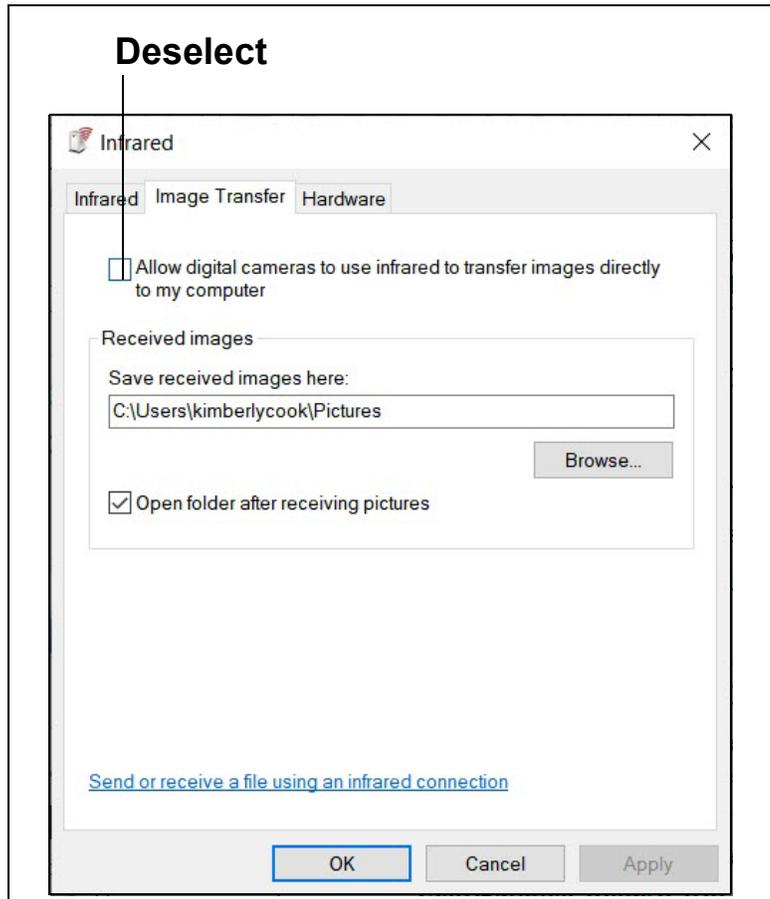
**Figure 4: Image Transfer Tab**

6. Click **OK**.

7. Close the Control Panel window.

Chapter 3: Operation

Launching the Program

1. Double click the **04 Series** shortcut on the computer desktop or navigate to the **04 Series** program using the **Start** menu.

2. The program launches and the Download window appears.
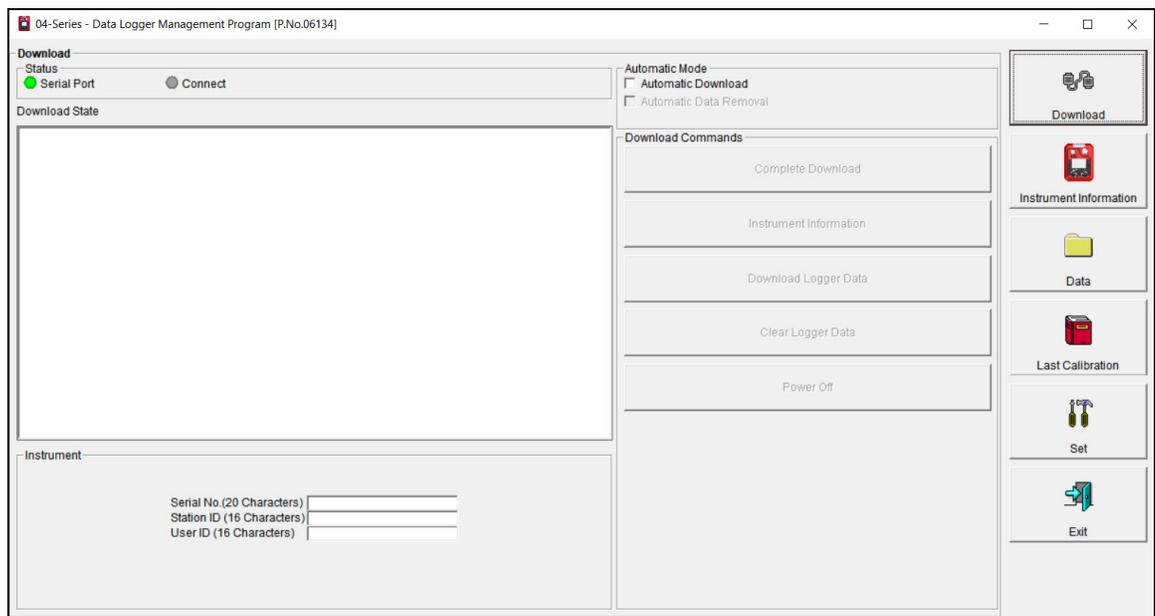
Figure 5: The Download Window

Connecting an Instrument

1. Launch the 04 Series Datalogging Program.

2. Place the instrument's infrared port 1-2 inches away from the computer or cable infrared port and align the two ports. The 04 Series' infrared port is at the top of the instrument.
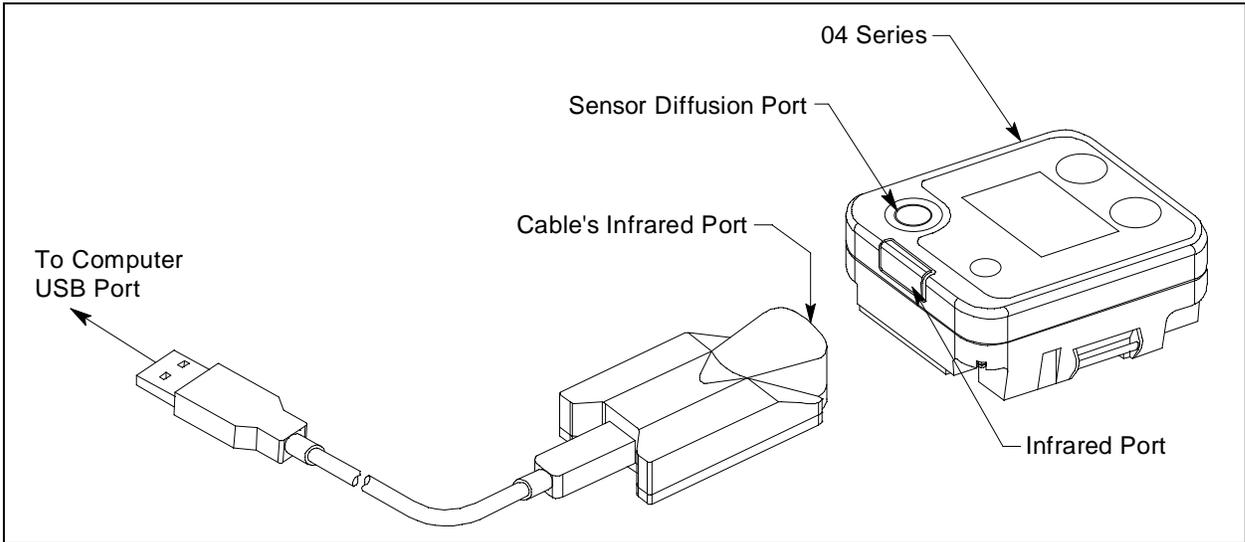
Figure 6: Aligning IrDA Ports

3. Press and hold the instrument's POWER MODE button. Release it when you hear a beep.

4. When the program establishes a connection with the instrument, the Connect light turns green and "Connection Successful." displays.
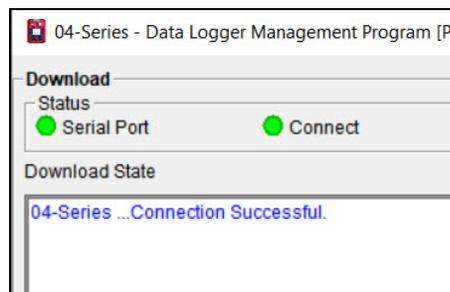
Figure 7: Connection Message

Downloading Data from an Instrument

Automatic Downloading

1. Select **Automatic Download**.
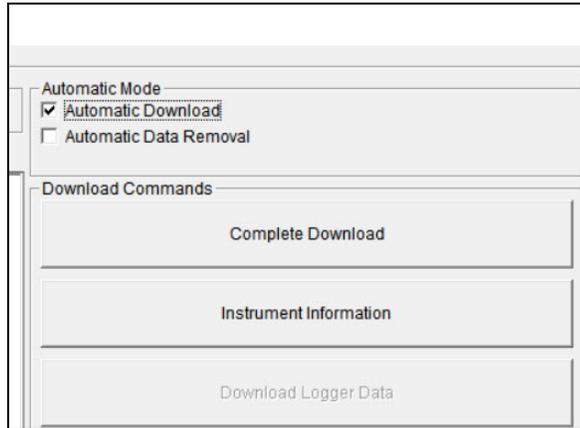
Figure 8: Automatic Download Selection Box

2. A caution message appears. The download commands are not active when **Automatic Download** is selected. However, if an 04 Series is connected when you select the **Automatic Download** box, the download commands remain active until that instrument is disconnected.
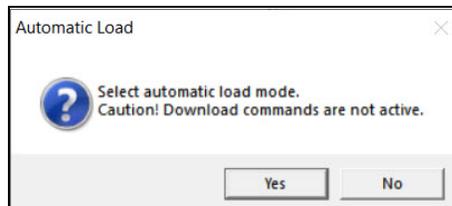
Figure 9: Automatic Download Message

3. To automatically clear instrument data after an automatic download, select **Automatic Data Removal**. **Automatic Data Removal** is only selectable if the **Automatic Download** box is selected.

4. Connect an instrument as described on pg. 12.

5. A download begins automatically after the 04 Series successfully connects.

6. The instrument automatically turns off after the data is downloaded.

Manual Downloading

1. To download logged data <u>and</u> instrument information from the instrument, click **Complete Download**.

2. To download instrument information <u>only</u>, click **Instrument Information.**

3. To download logged data <u>only</u>, click **Download Logger Data. Download Logger Data** becomes selectable only after doing a Complete Download or Instrument Information Download.

4. While the data is downloading, the message area of the Download window indicates program actions, communication or downloading problems, and what type of information has been downloaded.
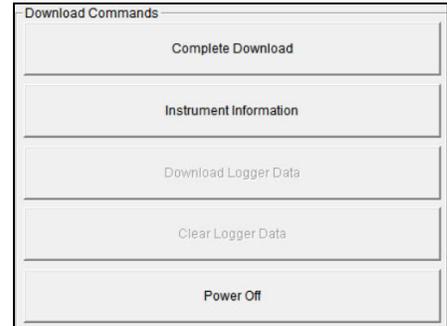
Figure 10: Download Commands

Download messages   Instrument ID
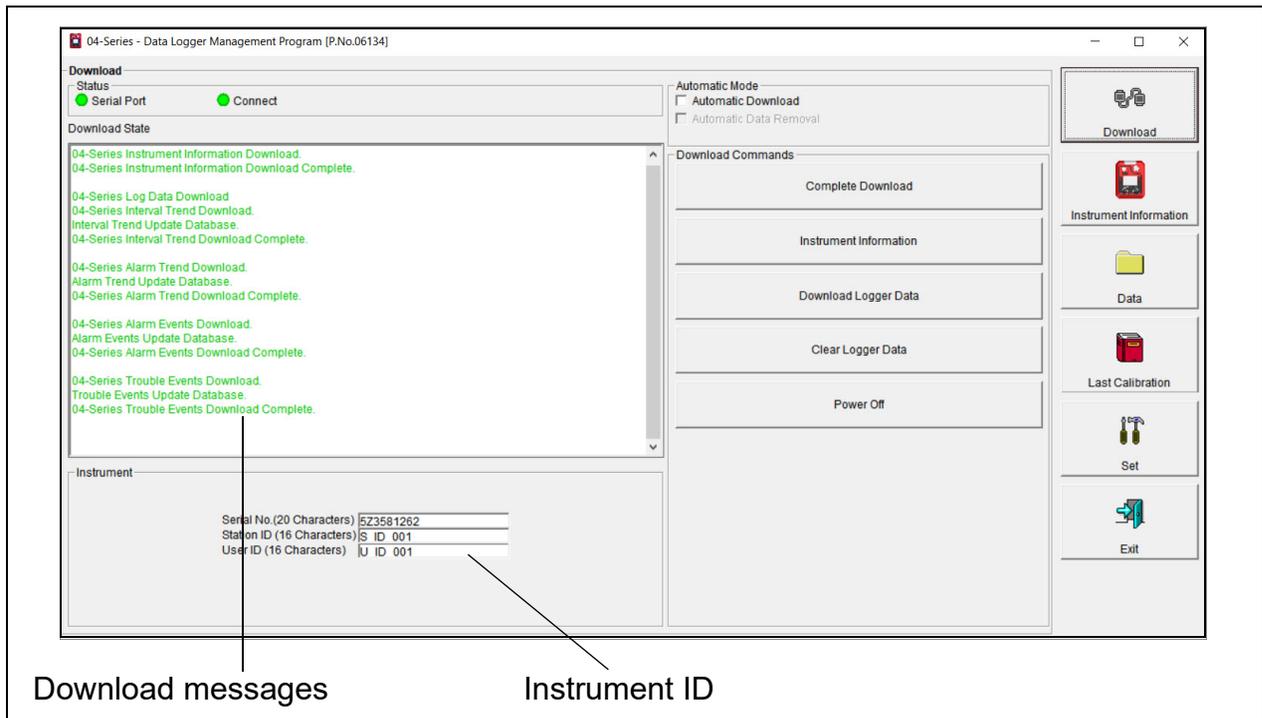
Figure 11: Download Messages & Download Commands

5. To delete all logged data in the instrument, click **Clear Logger Data**. This will not delete instrument parameters such as serial number, alarm settings, or auto calibration settings.

WARNING: *If you click Clear Logger Data, all logged data is erased in the instrument, but not in your computer's memory. So it's advisable that you download the instrument data before clicking Clear Logger Data.*

Turning Off an Instrument

1. Click **Download** if you are not already in the Download window.

2. Click **Power Off** and then **Yes** in the confirmation window. The instrument shuts off.

3. Click **Exit** in the bottom right corner of the program and **Yes** in the confirmation window to exit the program.

NOTE: If you shut down the Datalogging Program without turning off the instrument, the instrument goes into alarm after 3 minutes to indicate that it is not connected to a program. Reset the alarm by either a) starting up the Datalogging Program and establishing a connection or b) turning the instrument off using POWER MODE.

Chapter 4: Instrument Information Window

1. Connect an instrument and manually perform a **Complete Download** or **Instrument Information** download as described in "Connecting an Instrument" on page 12 and "Manual Downloading" on page 14.

2. Click **Instrument Information** on the right side of the program window.
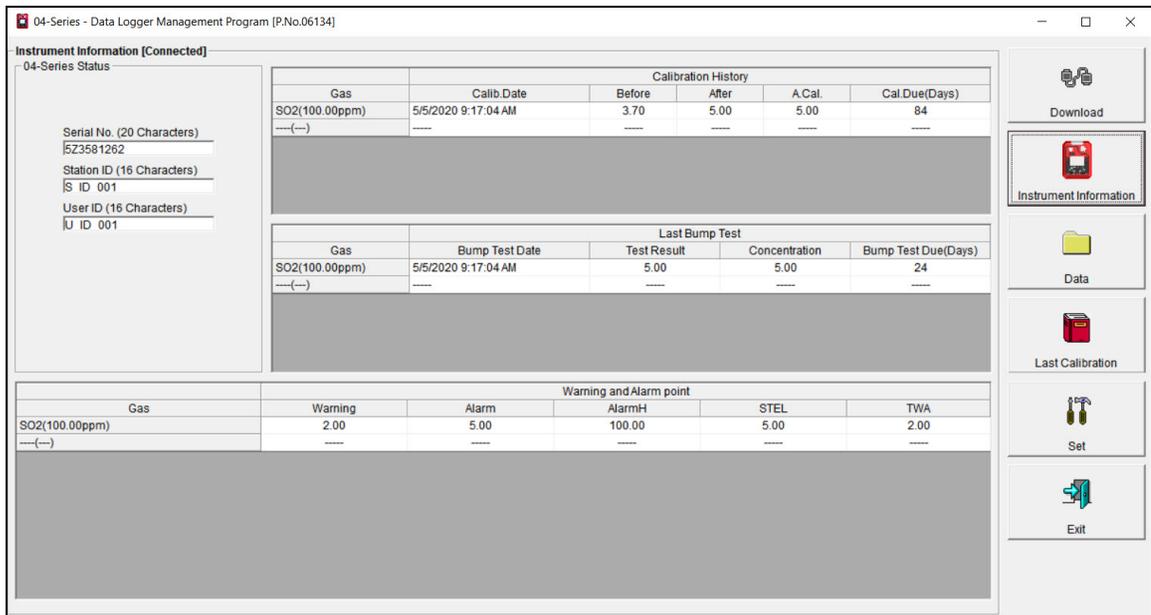
Figure 12: Instrument Information Window

3. The serial number, station ID, user ID, calibration and bump test history, and alarm points for the connected instrument are visible.

4. If the instrument is turned off after being connected to the program, the information in the **Instrument Information** window disappears.

Chapter 5: Data Window (Logged Data)

The instrument logs five types of data files: bump test data, calibration history, event data, interval trend data, and alarm trend data.

You can view, print, export (save to a file), and delete each type of data. Deleting data is password protected and is described on pg. 32.

NOTE: If the Datalogging Program database is on the user's computer (default setting), data only appears for instruments downloaded to that computer. If the database is on a shared network location, data appears for all instruments downloaded to that database. See pg. 7 for more instruction.

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1. Click **Data** on the right side of the program window.
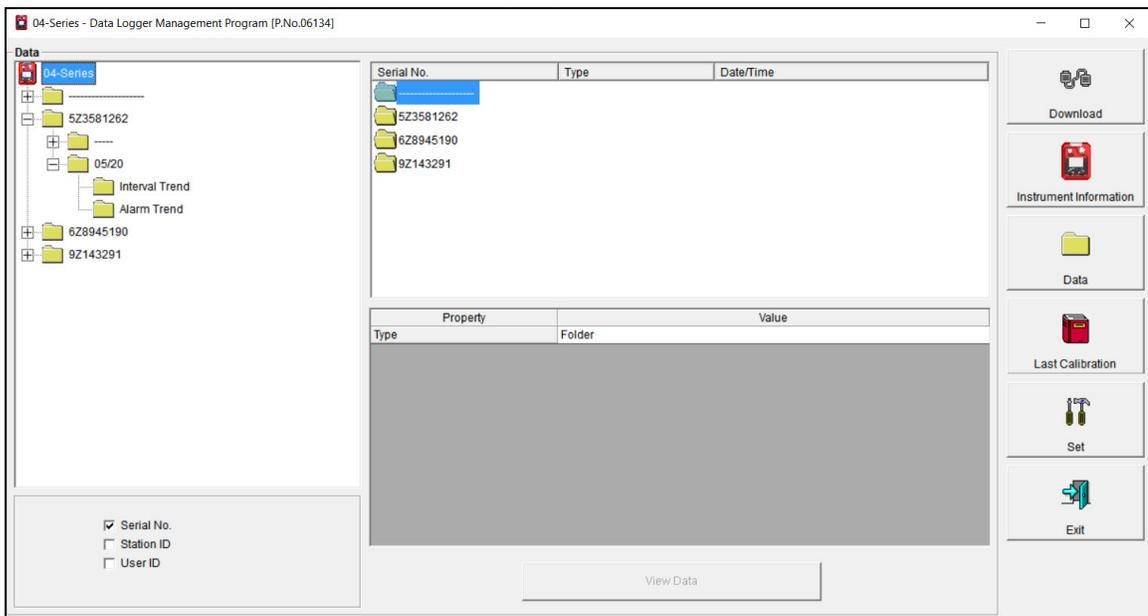
Figure 13: Data Window

2. Organize the data using the selection boxes in the lower left corner of the window. The data may be organized by one or more of the following parameters: serial number, station ID, or user ID. If none of the boxes are selected, then the data is organized by date.

NOTE: In the examples that follow, data is organized by serial number. Your Data Window may appear slightly different.

Bump Test Data

The instrument saves information for up to 100 of the most recent bump tests and calibrations combined. This bump test history is retrieved using either **Complete Download** or **Download Logger Data**.

All downloaded bump test data for all downloaded instruments is available in the Bump Test folders in the Data Window. The Bump Test folder is located in an untitled folder for each instrument. The bump test information available here is more comprehensive than that in the **Last Calibration** window.

1. Click **Data** at the right side of the program window.
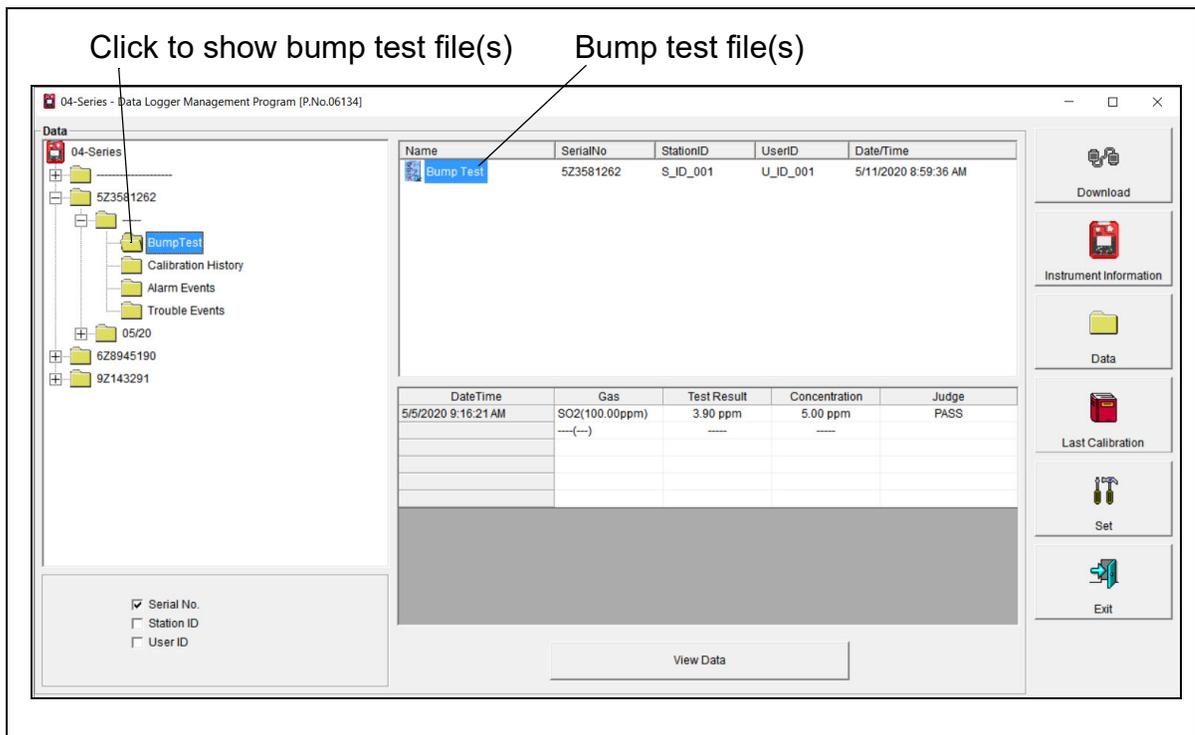
Figure 14: Data Window - Selecting Bump Test Files

2. Expand the folders for the desired serial number by double-clicking or using the (+) button next to each folder.

3. Open the untitled folder by double-clicking it or using the (+) button.

4. Click the **Bump Test** folder. The Bump Test file(s) for that instrument appear in the top right frame. If multiple Station IDs or User IDs are used for an instrument, then more than one Bump Test file appears.

    The date/time displayed on each line corresponds to the date/time of the instrument download and not the date/time of a bump test.

5. Click a file to select it. The first two saved bump tests are shown in the bottom right frame along with the total number of saved bump tests if it is more than two.

   Each saved bump test shows the date/time of the bump test, the gas, the test result, the gas concentration, and the bump test result.

6. To view all data in the Bump Test file, double click the Bump Test file or click **View Data**.
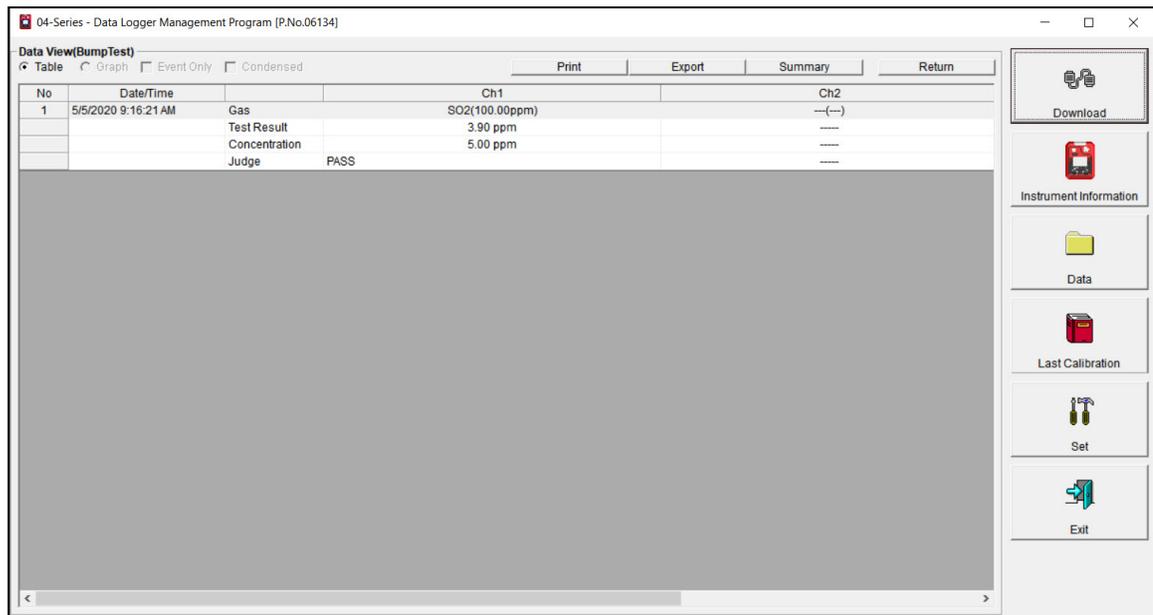
**Figure 15: Data View, Bump Test**

Printing Data

1. While viewing <u>all</u> data in one Bump Test file, Click **Print**.
2. Select a printer in the window that appears and click **OK**.

Exporting Data

1. While viewing <u>all</u> data in one Bump Test file, Click **Export**.
2. Specify the filename and file location. The default file type is ".csv" (comma-separated values).
3. Click **Save**.

Calibration History

The instrument saves information for up to 100 of the most recent bump tests and calibrations combined. This calibration history is retrieved using either **Complete Download** or **Download Logger Data**.

All downloaded calibration information for all downloaded instruments is available in the Calibration History folders in the Data Window. This information is saved in a Calibration History Folder that is located in an untitled folder for each instrument. The calibration history files are differentiated by instrument. The calibration information available here is more comprehensive than that in the Last Calibration Window.

1. Click **Data** along the right side of the program window.
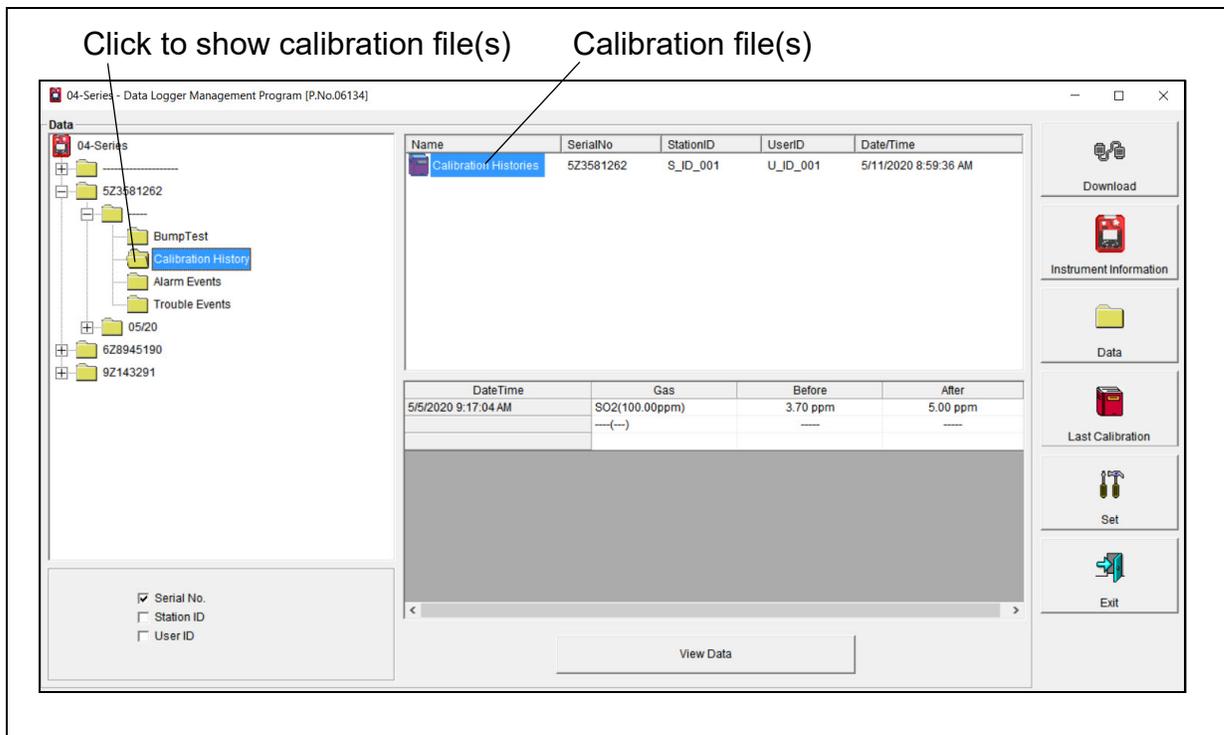
Figure 16: Data Window - Selecting Calibration History Files

2. Expand the folders for the desired serial number by double-clicking or using the (+) button next to each folder.

3. Open the untitled folder by double-clicking it or using the (+) button.

4. Click the **Calibration History** folder. The Calibration Histories file(s) for that instrument appear in the top right frame. If multiple Station IDs or User IDs are used for an instrument, then more than one Calibration Histories file appears.

   The date/time displayed on each line corresponds to the date/time of the instrument download and not the date/time of a calibration.

5. Click the file to select it. The first two saved calibrations are shown in the bottom right frame along with the total number of saved calibrations if it is more than two.

    Each saved calibration shows the date/time of calibration, the gas, the concentration before calibration, and the concentration after calibration. If a calibration failed, dashes appear in the After column instead of a gas concentration. If a channel was not included in calibration, dashes appear in the Before and After columns.

6. To view all data in the Calibration Histories file, double click the Calibration Histories file or click **View Data**. Calibration Histories files can only be viewed in table format.
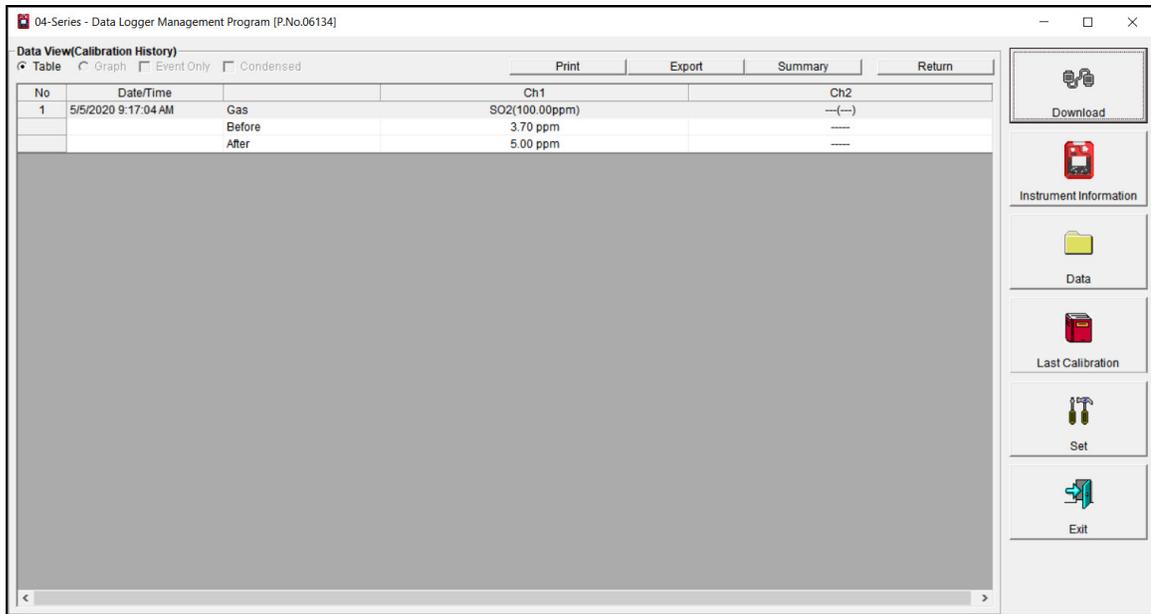
Figure 17: Data View, Calibration History

Printing Data

1. While viewing <u>all</u> data in one Calibration Histories file, click **Print**.
2. Select a printer in the window that appears and click **OK**.

Exporting Data

1. While viewing <u>all</u> data in one Calibration Histories file, click **Export**.
2. Specify the filename and file location. The default file type is ".csv" (comma-separated values).
3. Click **Save**.

Event Data

The instrument saves the 100 most recent alarm events and the 100 most recent trouble events.

Alarm event files save the time, instrument channel, and alarm type of every gas alarm event that occurs on a particular instrument. Warning, Alarm, Alarm H, STEL, TWA, and overscale events are saved.

Trouble event files note the time and type of failure. Dead battery alarms and sensor failures are examples of trouble events.

1. Click **Data** along the right side of the program window.
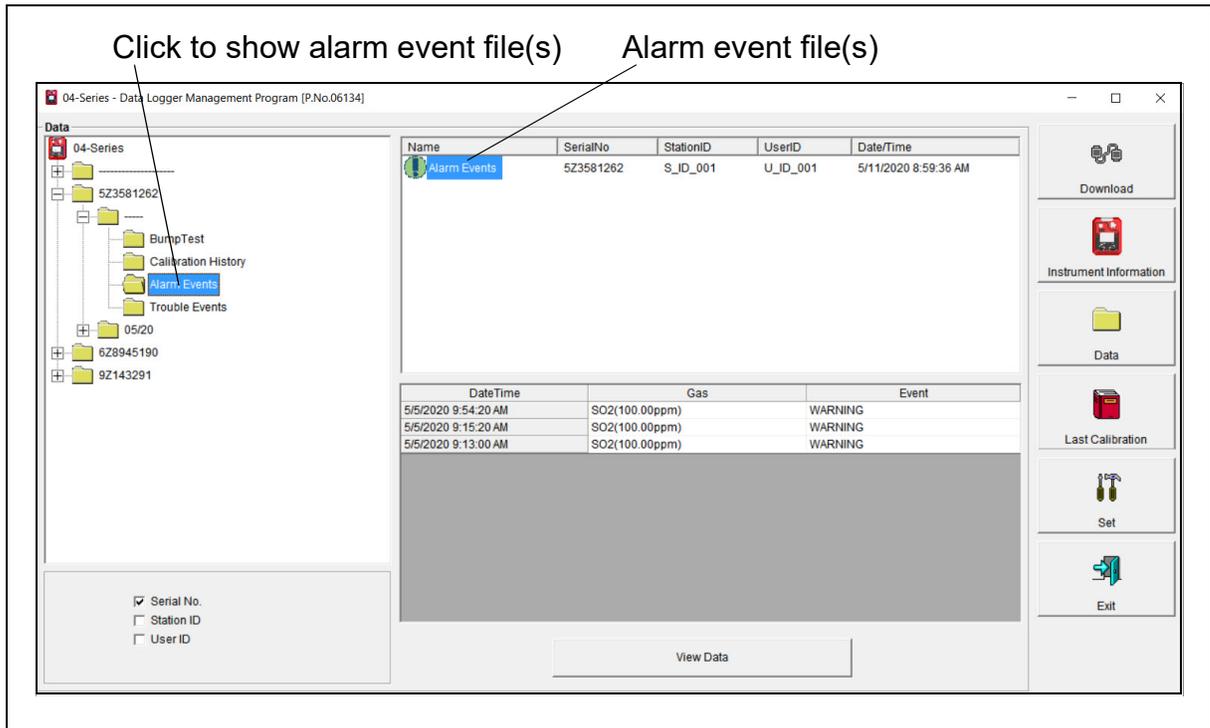
Figure 18: Data Window - Selecting Event Data Files

2. Expand the folders for the desired serial number by double-clicking or using the (+) button next to each folder.

3. Open the untitled folder by double-clicking it or using the (+) button.

4. Click the **Alarm Events** or **Trouble Events** folder. The Alarm Events or Trouble Events file(s) for that instrument appear in the top right frame. If multiple Station IDs or User IDs are used for an instrument, then more than one Alarm Events or Trouble Events file appear.

    The date/time displayed on each line corresponds to the date/time of the instrument download and not a date/time of an alarm or trouble event.

5. Click the desired event file to select it. An event list appears in the bottom right frame with the date, time, channel, and event type for the first eight saved events in the selected file. If more than eight events are saved, the first eight events are shown and the total number of events in the file is shown at the bottom of the list.

6. To view all data in the Alarm Events or Trouble Events file, double click the file or click **View Data**. Event files can only be viewed in table format.
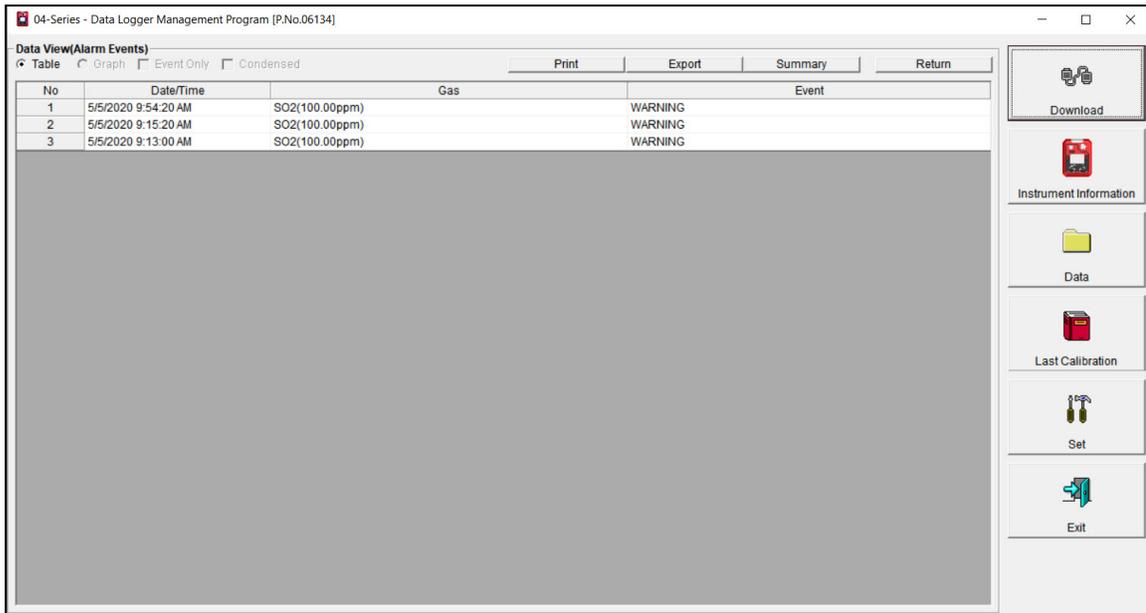

Figure 19: Data View - Alarm Events
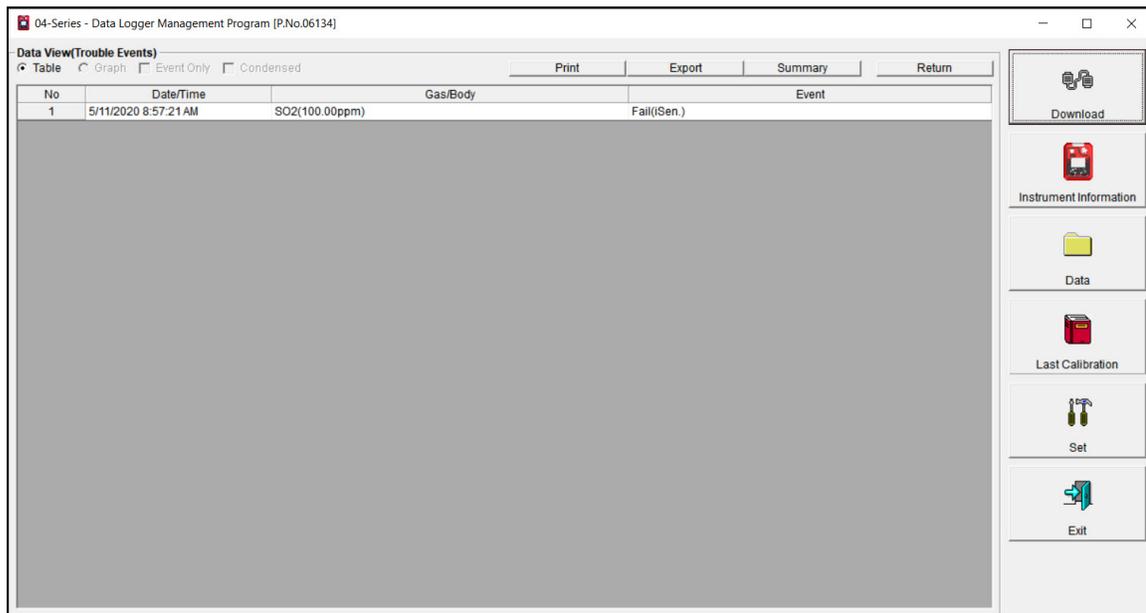
Figure 20: Data View - Trouble Events

7. Click **Summary** to show instrument information above the event table.

Printing Data

1. While viewing <u>all</u> data in one Alarm Events or Trouble Events file, click **Print**.

2. Select a printer in the window that appears and click **OK**.

Exporting Data

1. While viewing <u>all</u> data in one Alarm Events or Trouble Events file, click **Export**.

2. Specify the filename and file location. The default file type is ".csv" (comma-separated values).

3. Click **Save**.

Interval Trend Data

Average gas concentrations over the user-defined interval trend time are logged in the interval trend data files. Events such as gas alarms or sensor failures are saved in the interval trend data file when they occur. The interval trend time can be changed in the **Set** window (see pg. 41). The table below outlines how many hours of datalogging are available per interval trend time.

Interval Time	Data Logging Time
10 seconds	10 hours
20 seconds	20 hours
30 seconds	30 hours
1 minute	60 hours
3 minutes	180 hours
5 minutes	300 hours
10 minutes	600 hours

Each interval trend file has data for 1 operating session (turn on to turn off). The serial number, user ID, and station ID stored in the instrument at turn on are used for that interval trend file.

The interval trend file does not indicate when a user ID is changed during operation. When the station ID of the instrument is changed during operation, is it shown as an event in the interval trend file.

Data can always be viewed in table format. If more than 5 scheduled data points were saved, the data can be viewed in graph format. Events do not count toward the 5 needed data points for a graph.

1. Click **Data** along the right side of the program window.
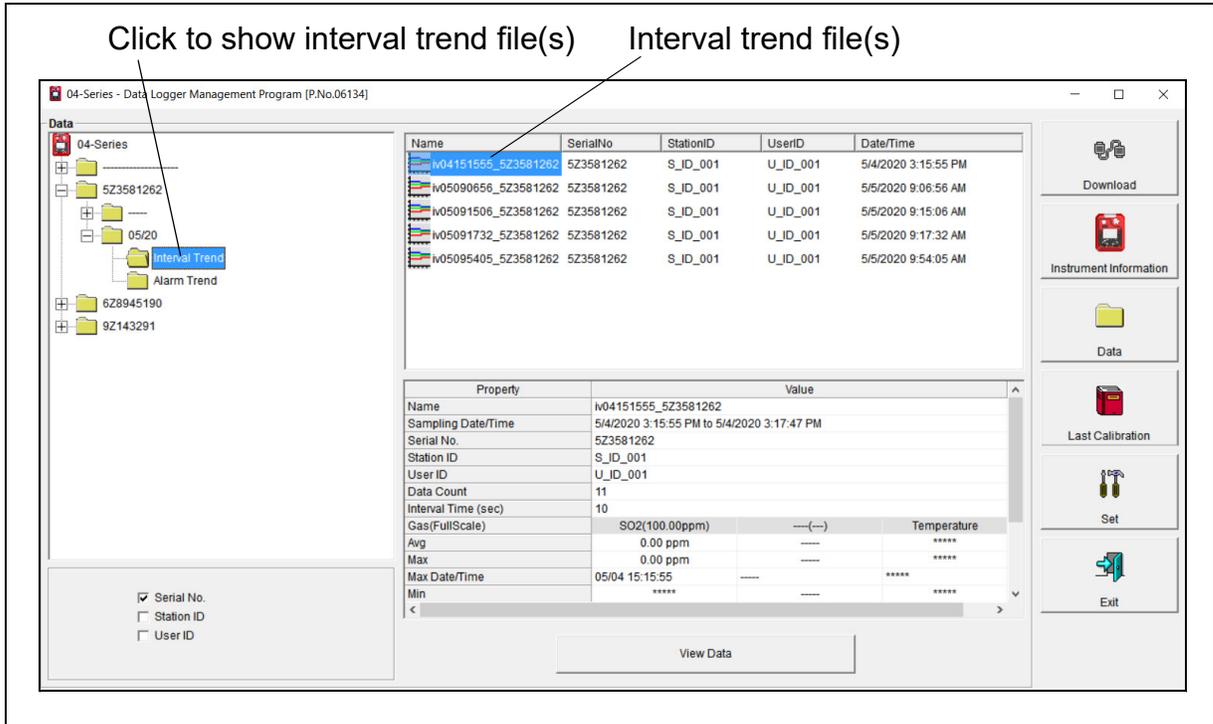
Figure 21: Data Window - Selecting Interval Trend Files

2. Expand the folders for the desired serial number by double-clicking or using the (+) button next to each folder.

3. Open the dated folder (month/year) whose contents you want to see by double-clicking it or using the (+) button.

4. Click the **Interval Trend** folder. The Interval Trend file(s) for that instrument appear in the top right frame.

   The date/time indicated on each line is the date/time that data recording started.

5. Click one of the interval trend data file names. A summary appears in the bottom right frame with instrument and alarm setting information.

6. If you want to view, graph, print, or export the interval trend data, double-click the filename or click the **View Data** button at the bottom of the window. The Interval Trend Data View window appears.

7. Interval trend data can be viewed in either table or graph format by selecting the **Table** or **Graph** selection buttons.

Table Format

1. To view the data in table format, click the **Table** selection button in the Data View window.


Figure 22: Interval Trend Data in Table Format

2. Interval trend data is shown as the average gas readings over the user defined interval trend time. So if the data logging session started at 4:13:38 PM and the interval time is set to 1 minute, then the readings logged at 4:14:38 PM are the average reading for each channel over that one minute period.

3. Events are displayed in colored boxes. An event always displays even if it didn't occur during a scheduled log time. Events include:

   • Gas alarms (Warning, Alarm, Alarm H, STEL, TWA)

   • Trouble conditions (sensor failure, low battery, etc.)

   • "Normal" indication after alarm condition is reset

   • Station ID changed during operation

4. Click **Summary** to show instrument information above the interval trend data table.

5. Select **Event Only** to view only events.

6. Select **Condensed** to view condensed interval trend data.

   • The first and last scheduled data points in the session are shown.

   • If there are more than two consecutive data points with the same readings for all channels, only the first and last of these consecutive data points are shown.

   • All events, such as gas alarms or sensor failures, are shown.

   • For any event, the data point before and after the event is always shown.

7. Click on an alarm event to view the alarm trend data file. To return to the interval trend data file, click **Return** or click the "X" in the upper right corner of the new window to close the window.


Figure 23: Data Displayed by Alarm Trend Cursor Symbol

Graph Format

1. To view the data in graph format, click **Graph** in the Data View window. Five or more scheduled data points are required to display an interval trend data file in graph format.

NOTE: The data count shown in Figure 21 includes scheduled data points and events. A data count above 5 does not guarantee enough scheduled data points for a graph.
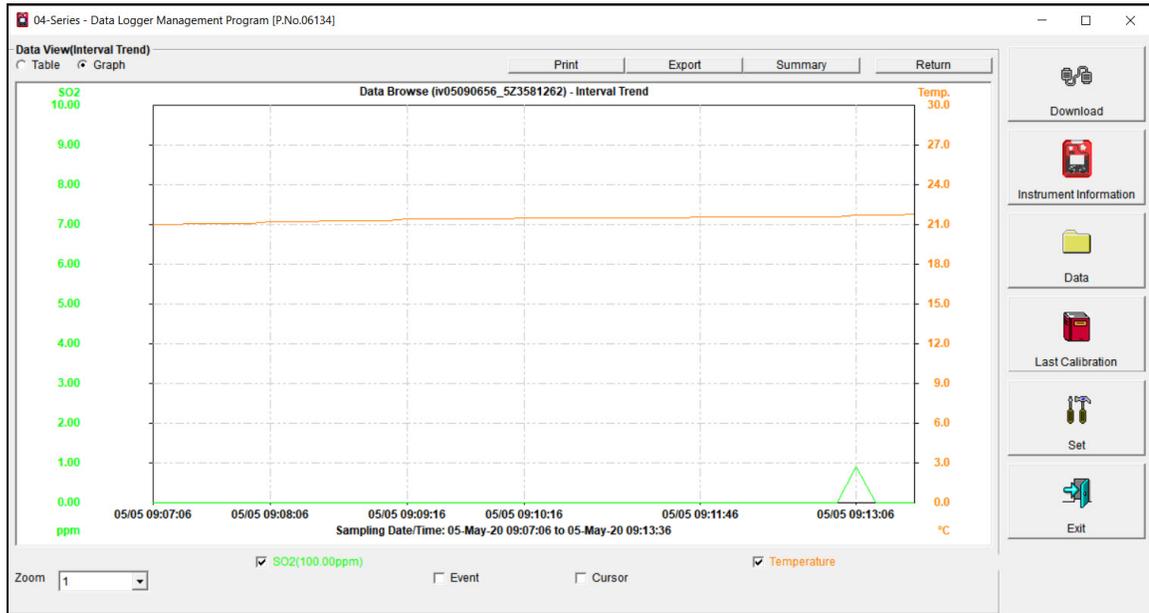

Figure 24: Interval Trend Data in Graph Format

2. Select or deselect gases to show on the graph.

3. Choose the zoom level. Zooming in shows greater detail relative to time.

4. Select **Event** to see indications for warning, alarm, start of calibration, or end of calibration. Each indication is color coded to the gas color.

5. Select **Cursor** to view the gas reading and log time for the data point at the cursor location. Use the left and right arrows on your keyboard to move the cursor across the graph horizontally or click on a location to move the cursor to that location. Use the up and down arrows on the keyboard to move the readings up or down on the screen.

6. Click **Summary** to show instrument information above the interval trend data graph.

Printing Data

1. While viewing an Interval Trend file in table or graph format, click **Print**.

2. Select a printer in the window that appears and click **OK**. Data displayed in Graph view prints as a graph and data displayed in Table view prints as a table.

Exporting Data

1. While viewing an Interval Trend file in table or graph format, click **Export**.

2. Specify the file name, file location, and file type. For Graph view, the export file type is ".bmp" (Windows bitmap). For Table view, the default file type is ".csv" (comma-separated values).

3. Click **Save**.

Alarm Trend Data

The instrument saves up to 8 files for the most recent gas alarm events. If 8 alarm trend files are already saved, the newest alarm trend file overwrites the oldest. Alarm events must be more than 15 minutes apart to trigger the saving of a new alarm trend file. Alarm trend files are separate from the interval trend data files.

The alarm event gas readings are highlighted in red. Peak (minimum for oxygen) readings at 5 second intervals are shown for 30 minutes before and 30 minutes after the alarm event. If the instrument was not on for 30 minutes before the alarm event occurs, the missing data is left blank. If the instrument is turned off less than 30 minutes after an alarm event occurs, the data file will only have logged data until the unit was turned off.

Alarm trend data can always be displayed in either table or graph format.

1. Click **Data** along the right side of the program window.
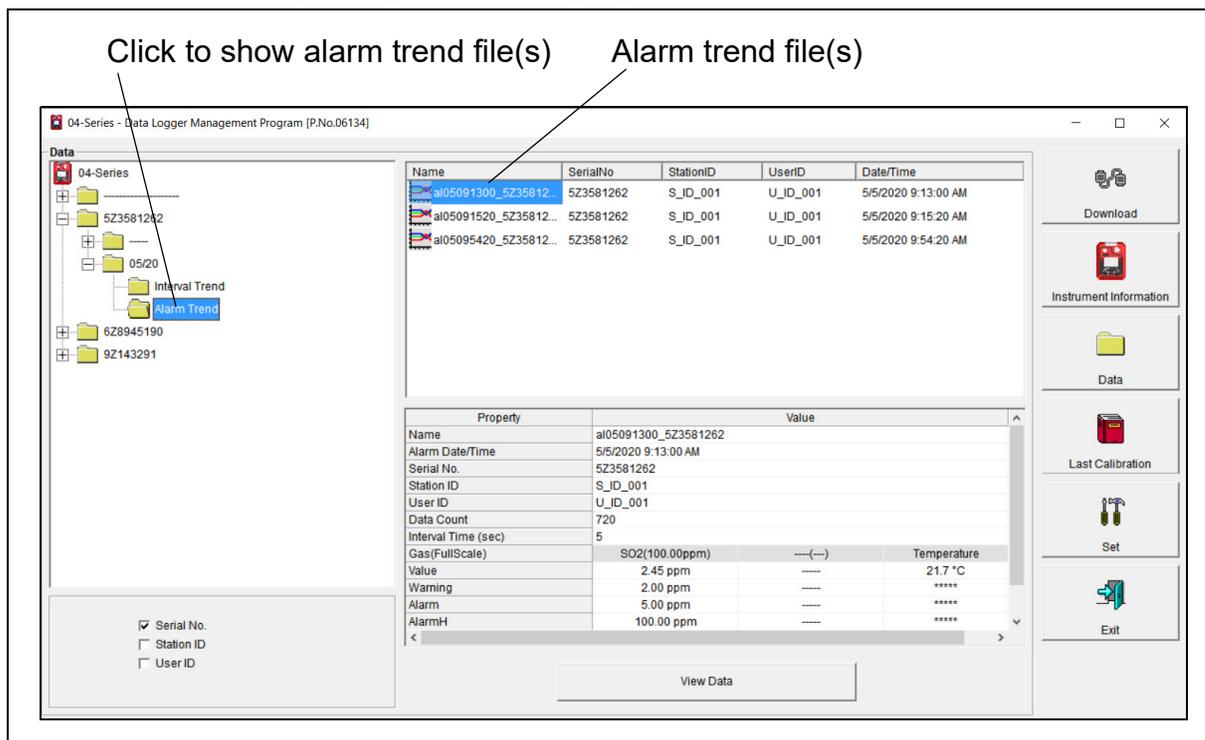
Figure 25: Data Window - Selecting Alarm Trend Files

2. Expand the folders for the desired serial number by double-clicking or using the (+) button next to each folder.

3. Open the dated folder (month/year) whose contents you want to see by double-clicking it or using the (+) button.

4. Click the **Alarm Trend** folder. The Alarm Trend file(s) for that instrument appear in the top right frame.

   The date/time indicated on each line is the date/time that data recording started.

5. Click one of the alarm trend data file names. A summary appears in the bottom right frame with instrument and alarm setting information.

6. If you want to view, graph, print, or export the alarm trend data, double-click the filename or click the **View Data** button at the bottom of the window. The Alarm Trend Data View window appears.

7. Alarm trend data can be viewed in either table or graph format by selecting **Table** or **Graph**.

Table Format

1. To view the data in table format, click the **Table** selection button in the Data View window.


Figure 26: Alarm Trend Data in Table Format

2. The log times are shown along with the peak (minimum for oxygen) gas readings for the previous five seconds.

3. The gas readings that triggered the saving of the alarm trend file are highlighted in red and are the instantaneous readings at that time.

4. Click **Summary** to show instrument information above the alarm trend data table.

Graph Format

1. To view the data in graph format, click the **Graph** button in the Data View window. An alarm trend file can always be graphed regardless of the number of logged points.
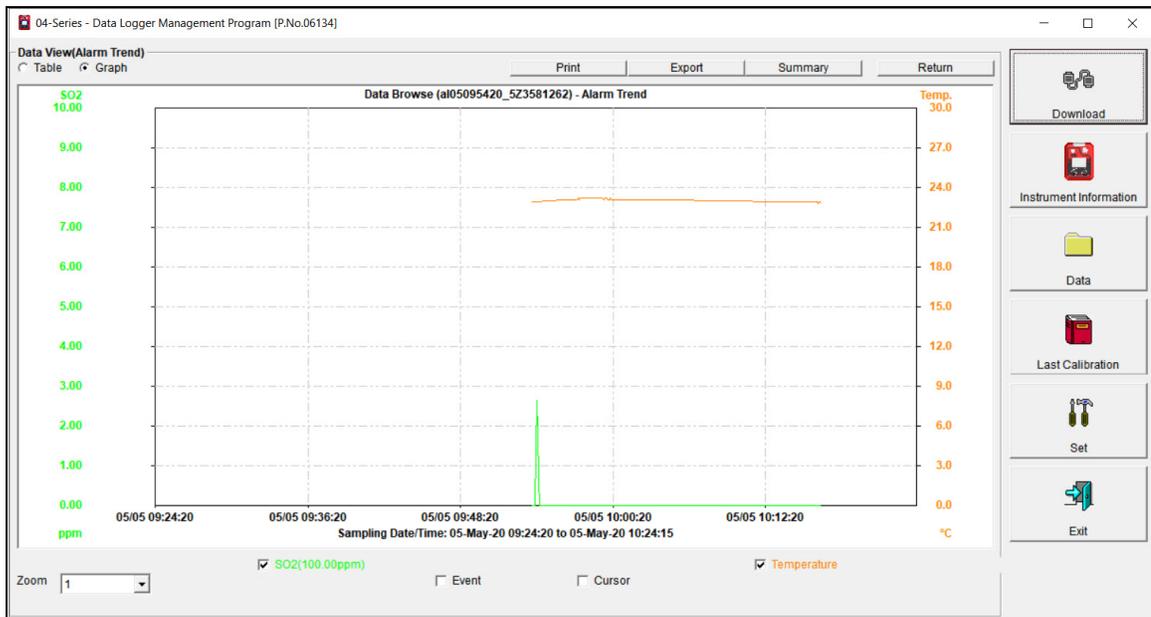

Figure 27: Alarm Trend Data in Graph Format

2. Select or deselect gases to show on the graph.

3. Choose the zoom level. Zooming in shows greater detail relative to time.

4. Select **Event** so see an indication for the alarm event that triggered the saving of the alarm trend file.

5. Select **Cursor** to view the gas reading and log time for the data point at the cursor location. Use the left and right arrows on your keyboard to move the cursor across the graph horizontally or click on a location to move the cursor to that location. Use the up and down arrows on the keyboard to move the readings up or down on the screen.

6. Click **Summary** to show instrument information above the alarm trend data graph.

Printing Data

1. While viewing an Alarm Trend file in table or graph format, click **Print**.

2. Select a printer in the window that appears and click **OK**. Data displayed in Graph view prints as a graph and data displayed in Table view prints as a table.

Exporting Data

1. While viewing an Alarm Trend file in table or graph format, click **Export**.

2. Specify the file name, file location, and file type. For Graph view, the export file type is ".bmp" (Windows bitmap). For Table view, the default file type is ".csv" (comma-separated values).

3. Click **Save**.

Deleting Data in the Data Window

1. Click **Data** on the right side of the program window.

2. Right click the folder or file you want to delete.

3. The Delete box appears.
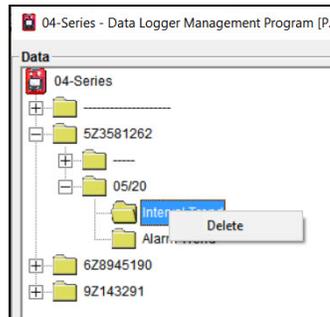
Figure 28: Delete Box

4. Click **Delete**. The Password Window appears.
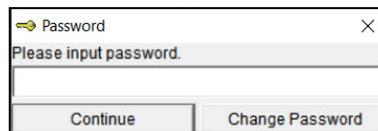
Figure 29: Password Window

5. Enter the password and click **Continue**. The factory-set, case-sensitive password is **rki**. See pg. 33 for instructions to change the password.

6. Click **Yes** in the confirmation window to confirm that want to delete the folder or file.

Changing the Delete Password

CAUTION: Changing the password requires use of the Delete box. Take care to avoid accidentally deleting data.

---

1. Right-click a data folder, data file, or event file. The Delete box appears.
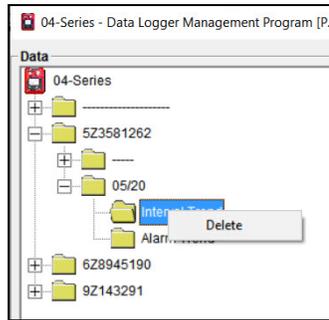
Figure 30: Delete Box

2. Click **Delete**. The Password Window appears.
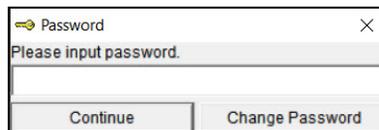
Figure 31: Password Window

3. Click **Change Password**. The Password Window asks you to input the current password.
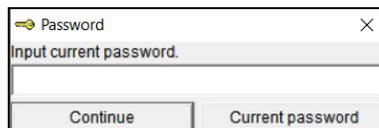
Figure 32: Inputting Current Password

4. Type the current password, then click **Current password**. The Password Window asks you to input the new password.
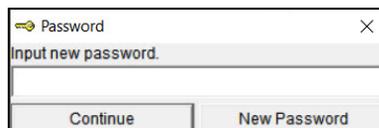
Figure 33: Inputting New Password

5. Type the new password and click **New Password**. The Password Window asks you to input the new password again to confirm it.

Figure 34: Confirming New Password

6. Type the new password again, then click **Confirm New Password**.

7. Click **OK** when the program confirms that you have changed the password.

Figure 35: Confirming New Password

8. Close the Password Window by clicking the red "X" in the upper right corner of the window.

Chapter 6: Last Calibration Window

The Last Calibration Window stores the information for the most recent successful calibration and for the most recent successful bump test for each downloaded instrument. Calibration data is displayed in the top part of the screen. Bump test data is displayed in the bottom part of the screen.

You can display the information three ways by using the **Need Calibration/Need Bump Test**, **Calibration Date/Bump Test Date**, or **Calibration Record/Bump Test Record** selection buttons. You can also print the information if you select the **Need Calibration/Need Bump Test** or **Calibration Date/Bump Test Date** view.

NOTE: If the Datalogging Program database is on the user's computer (default setting), data only appears for instruments downloaded to that computer. If the database is on a shared network location, data appears for all instruments downloaded to that database. See pg. 7 for more instruction.

Need Calibration/Need Bump Test View

Selecting this view shows the last calibration date, last bump test date, and the last download date for the instruments that are due for calibration or bump testing.

The instruments that are due for calibration or bump testing (in the case of the **Need Calibration/Need Bump Test** view, that will be all of them) will have their last calibration date or last bump test date highlighted in red. The instruments that have not been downloaded for more than 90 days will have their last download date highlighted in purple.

All user ID/station ID combinations for a particular serial number will appear as separate lines but will all have the same last calibration and last bump test date. For example, an instrument used with U_ID_001/S_ID_001 on one day and U_ID_002/S_ID_002 on another day will be listed twice to show each of those ID combinations. The serial number, last calibration, last bump test date, and last download date for each listing will be the same.
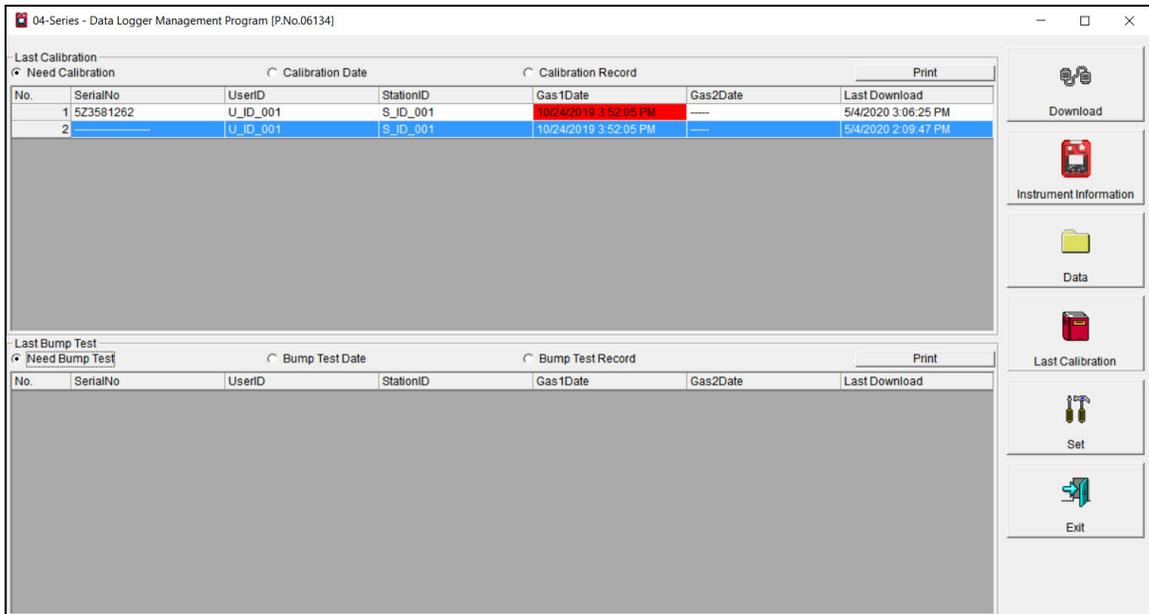
Figure 36: Last Calibration Window: Need Calibration View

1. The **Need Calibration/Need Bump Test** view shows the following fields for both calibration and bump test data:

   • No.: Number assigned to downloaded instrument. The most recently downloaded instrument is assigned "No. 1".

   • SerialNo: Instrument's serial number

   • UserID: The instrument's user ID.

   • StationID: The instrument's station ID.

   • Target Gases: Date of calibration or bump test for each gas in MM/DD/YYYY and 12-hour format.

   • Last Downloaded: Date of last download in MM/DD/YYYY and 12-hour format.

2. To print a list of the instruments shown in the **Need Calibration/Need Bump Test** view along with their user ID and last calibration date or last bump test date, click the appropriate **Print** button (cal or bump section). A Printer List dialog box appears.

Figure 37: Printer List Dialog Box

3. Select a printer and click **OK** to print the instrument list.

Calibration Date/Bump Test Date View

Selecting this view shows the last calibration date, last bump test date, and the last download date for all instruments in the program's database.

The instruments that are due for calibration or bump testing will have their last calibration date or last bump test date highlighted in red. The instruments that have not been downloaded for more than 90 days will have their last download date highlighted in purple.

All user ID/station ID combinations for a particular serial number will appear as separate lines but will all have the same last calibration and last bump test date. For example, an instrument used with U_ID_001/S_ID_001 on one day and U_ID_002/S_ID_002 on another day will be listed twice to show each of those ID combinations. The serial number, last calibration, last bump test date, and last download date for each listing will be the same.

Figure 38: Last Calibration Window: Calibration Date View

1. The **Calibration Date/Bump Test Date** view shows the following fields for both calibration and bump test data:

   - No.: Number assigned to downloaded instrument. The most recently downloaded instrument is assigned "No. 1".

   - SerialNo: Instrument's serial number

   - UserID: The instrument's user ID.

   - StationID: The instrument's station ID.

   - Target Gases: Date of calibration or bump test for each gas in MM/DD/YYYY and 12-hour format.

   - Last Downloaded: Date of last download in MM/DD/YYYY and 12-hour format.

2. To print a list of the instruments shown in the **Calibration Date/Bump Test Date** view along with their user ID and last calibration date or last bump test date, click the appropriate **Print** button (cal or bump section). A Printer List dialog box appears.
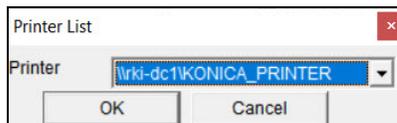
Figure 39: Printer List Dialog Box

3. Select a printer and click **OK** to print the instrument list.

Calibration Record/Bump Test Record View

Selecting the Calibration Record/Bump Test Record view shows detailed calibration or bump test information for each instrument's most recent successful calibration or bump test.

The instruments that are due for calibration or bump testing will have their Cal.Due(Days) or Bump Test Due(Days) value highlighted in red.

All user ID/station ID combinations for a particular serial number will appear as separate lines but will all have the same last calibration and last bump test date. For example, an instrument used with U_ID_001/S_ID_001 on one day and U_ID_002/S_ID_002 on another day will be listed twice to show each of those ID combinations. The serial number and calibration/bump test data for each listing will be the same.


Figure 40: Last Calibration Window: Calibration Record View

1. The calibration field shows:

   - SerialNo: Instrument's serial number
   - UserID: The instrument's user ID.
   - StationID: The instrument's station ID.
   - Gas: Instrument's active gases.
   - Before: Gas reading prior to calibration.
   - After: Gas reading after calibration.
   - A. Cal.: Auto calibration value for each gas. The "After" column should match the "A. Cal." column.
   - Cal. Due (Days): Days left before calibration is due. If the instrument is due now, the box is highlighted in red.

2. The bump test field shows:

   - SerialNo: Instrument's serial number
   - UserID: The instrument's user ID.
   - StationID: The instrument's station ID.
   - Gas: Instrument's active gases.
   - Test Result: The reading for each channel at the end of the bump test.
   - Concentration: Applied gas concentration for each gas.
   - Bump Test Due: Days left before bump test is due. If the instrument is due now, the box is highlighted in red.

3. It is not possible to print any information when the Calibration Record/Bump Test Record view is selected. To view and print all past calibrations for an instrument, see "Calibration History" on page 20.

Deleting Last Calibration Data

1. Click **Last Calibration** on the right side of the program window.

2. Select the **Need Calibration/Need Bump Test** or **Calibration Date/Bump Test Date** view.

3. Click the row for the instrument whose calibration or bump test information you want to delete. It will be highlighted to show that it is selected.

4. Right click the selected instrument.
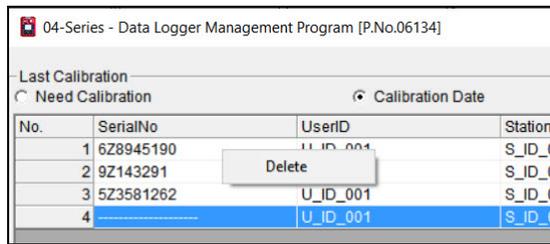
Figure 41: Delete Box

5. Click **Delete**.

6. Enter the password and click **Continue**. The factory-set, case-sensitive password is **rki**. See "Changing the Delete Password" on page 33 for instructions to change the password.
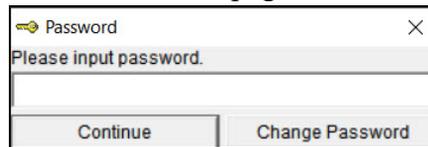

Figure 42: Password Window

7. Click **Yes** in the confirmation window.

NOTE: Deleting instrument data in the **Data** window will not delete calibration data from the **Last Calibration** window. Data in the **Last Calibration** window must be deleted separately.

Chapter 7: Set Window (Instrument Parameters)

In the **Set** window, you can change the following instrument parameters:

- serial number
- station ID
- user ID
- interval trend time
- date/time
- auto start after successful bump
- auto start after successful cal
- alarm points
- auto calibration value

Changing Instrument Parameters

1. Launch the Datalogging Program.

2. If the **Automatic Download** selection box is selected, deselect it.

3. Connect an instrument as described on pg. 12.

4. Click **Instrument Information** (instrument information <u>only</u>) or **Complete Download** (instrument information <u>and</u> instrument data).

5. Click **Set**.
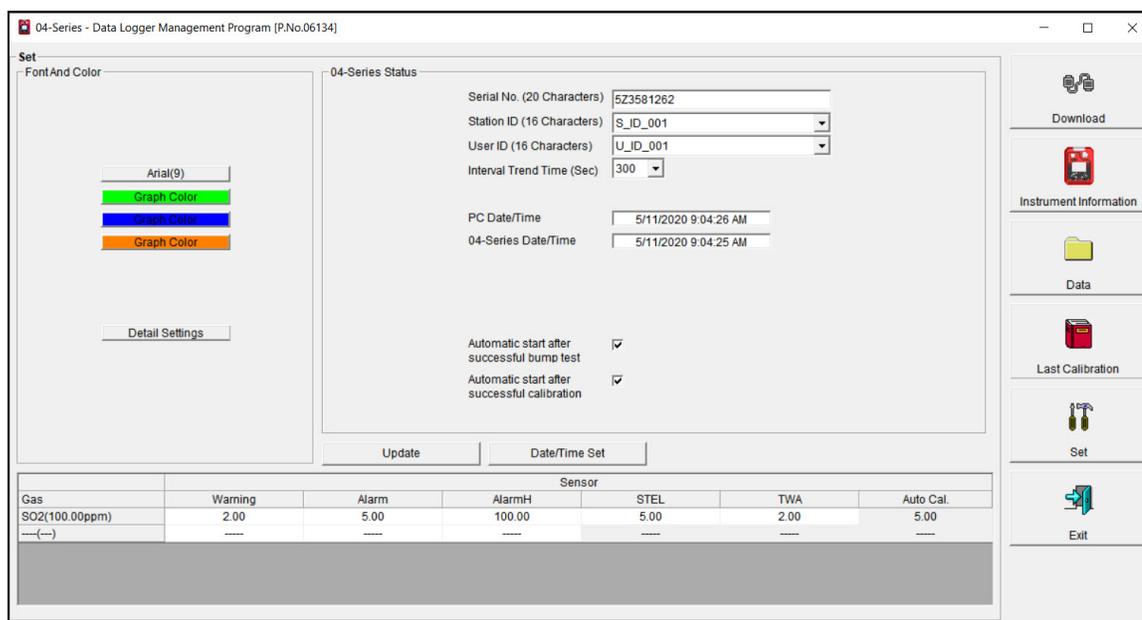
Figure 43: Set Window

6. To change the serial number stored in the instrument, click the serial number field and use the backspace key to remove the current entry, then type the new serial number.

7. Use the drop down menu to select a new station ID or user ID from the list. The available station and user IDs are ones that are stored in the instrument's memory.

8. Use the drop down menu to set the **Interval Trend Time**. The available choices are 10, 20, 30, 60, 180, 300, and 600 seconds. The table below outlines how many hours of datalogging are available per interval trend time.

Interval Time	Data Logging Time
10 seconds	10 hours
20 seconds	20 hours
30 seconds	30 hours
1 minute	60 hours
3 minutes	180 hours
5 minutes	300 hours
10 minutes	600 hours

9. Select or deselect **Auto start after successful bump test** and **Auto start after successful cal**.

    Selected (factory setting): If only one calibration cylinder is assigned, the 04 Series automatically starts its warmup sequence after a <u>successful</u> bump test or calibration. If multiple calibration cylinders are assigned, these parameters have no effect on operation.

    Deselected: The 04 Series does <u>not</u> automatically start its warmup sequence after a successful bump test or calibration.

10. To change alarm points and the auto calibration value for each channel, double-click the field you wish to change then type in the new information.

11. Click **Update** and then **Yes** in the confirmation window to upload the changes to the instrument.

12. To update the instrument's date and time to match the computer's, click **Date/Time Set** and then click the **Yes** in the confirmation window.

Changing User and Station IDs

The Detail Settings button in the Set window allows the user to create or change a User ID list or Station ID list and upload it to an instrument.

1. Launch the Datalogging Program.

2. If the **Automatic Download** selection box is selected, deselect it.

3. Connect an instrument as described on pg. 12.

4. Click **Instrument Information** (instrument information <u>only</u>) or **Complete Download** (instrument information <u>and</u> instrument data).

5. Click **Set**.
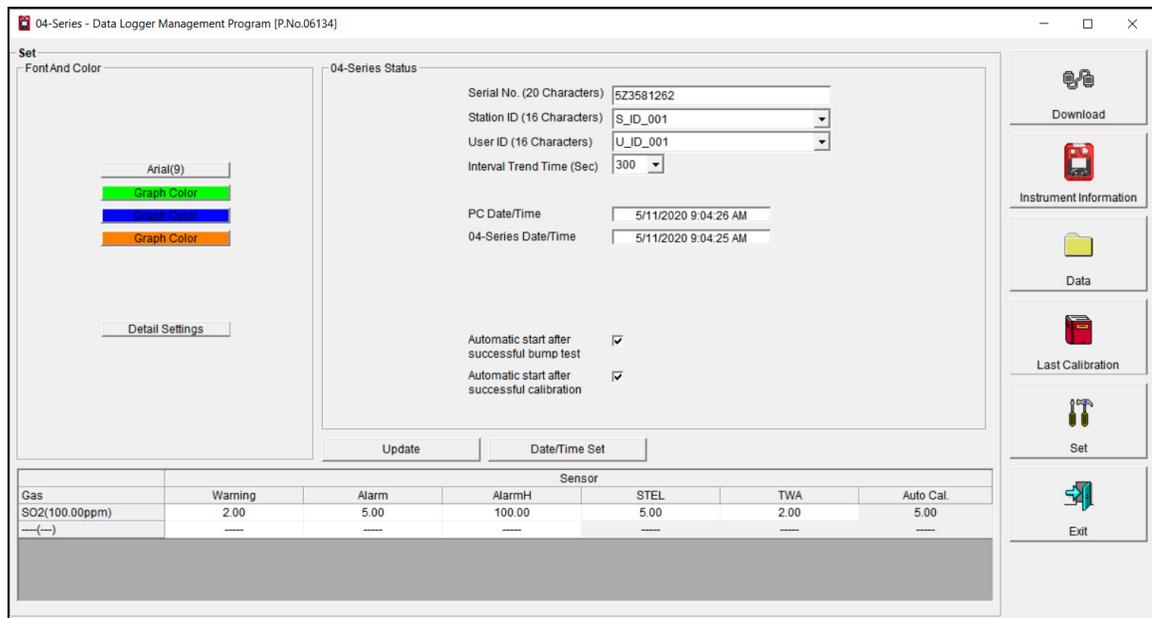
**Figure 44: Set Window**

Directly Editing Station and User ID Lists

The station and user ID lists can be edited directly or through the use of .csv files. Editing them directly is often more convenient if your station or user ID list is short. For longer ID lists, using .csv files will be more convenient. See "Updating Station and User ID Lists Using .csv Files" on page 46 for instructions to use .csv files.

1. Click the **Detail Settings** button in the Set window. If you do not currently have any user-defined User IDs or Station IDs programmed into the instrument, the screen will appear as shown below.
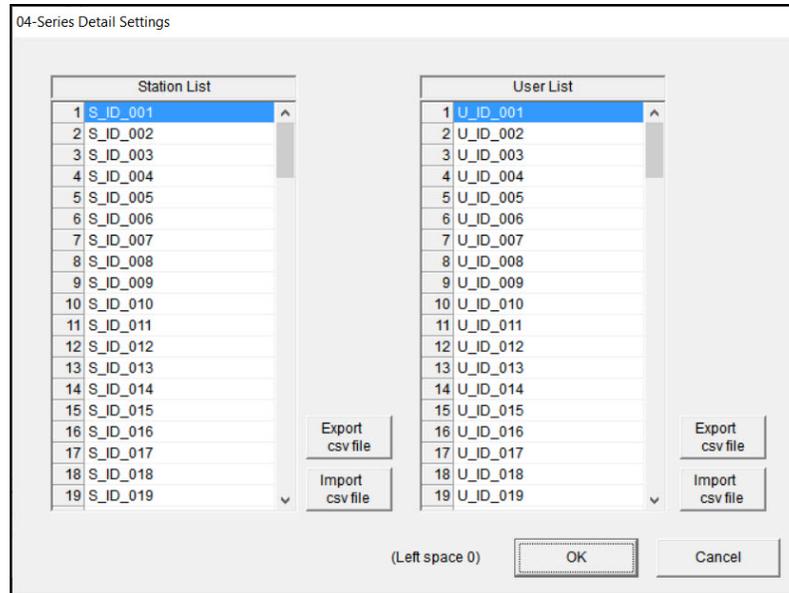

Figure 45: Detail Settings Window

The Station ID list is shown on the left and the User ID list is shown on the right. Both lists have **Export csv file** and **Import csv file** buttons located to the right of each list.

If the instrument had any user-defined station or user IDs, they would be displayed in the appropriate list.

2. Double click the station or user ID you wish to change and delete the existing information. Type in the new station or user ID. Each ID can be up to 16 characters long and can contain uppercase letters or numbers. However, only 8 characters are visible on the instrument screen. If you intend to use the instrument's Display Mode to switch between user and station IDs, make sure that the first 8 characters of each ID are unique.

3. Click **OK** to save the changes and return to the Set window.

4. The new station and user ID lists will be visible in the Station ID and User ID selection boxes in the Set window. Use the drop down menu to select a current station and user ID for the instrument.

5. To upload the updated station and/or user ID list to the instrument and upload any other changes you have made, click **Update** and click **OK** when the confirmation box appears.

Updating Station and User ID Lists Using .csv Files

Station and user ID lists can also be edited by using .csv files.

1. Click the **Detail Settings** button in the Set window. If you do not currently have any user-defined User IDs or Station IDs programmed into the instrument, the screen will appear as shown below.
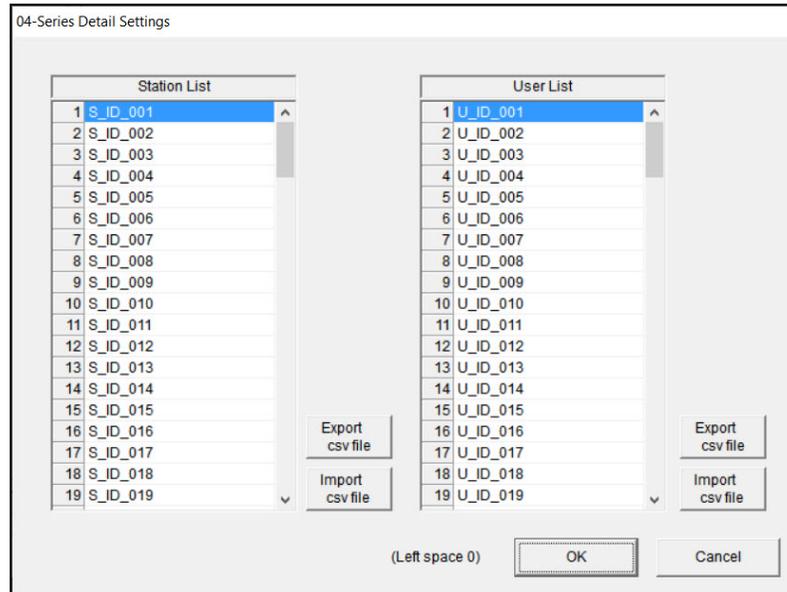
Figure 46: Detail Settings Window

The Station ID list is shown on the left and the User ID list is shown on the right. Both lists have **Export csv file** and **Import csv file** buttons located to their right.

2. To create a new ID list, click the appropriate **Export csv file** button. In the example below, the Station ID's **Export csv file** button was clicked.

3. Navigate to the file storage location, type in a file name, and click **Save**.

4. Open the .csv file in a word processing program such as Word, WordPad, or Notepad. Below is an example of the Station .csv file opened in Notepad.
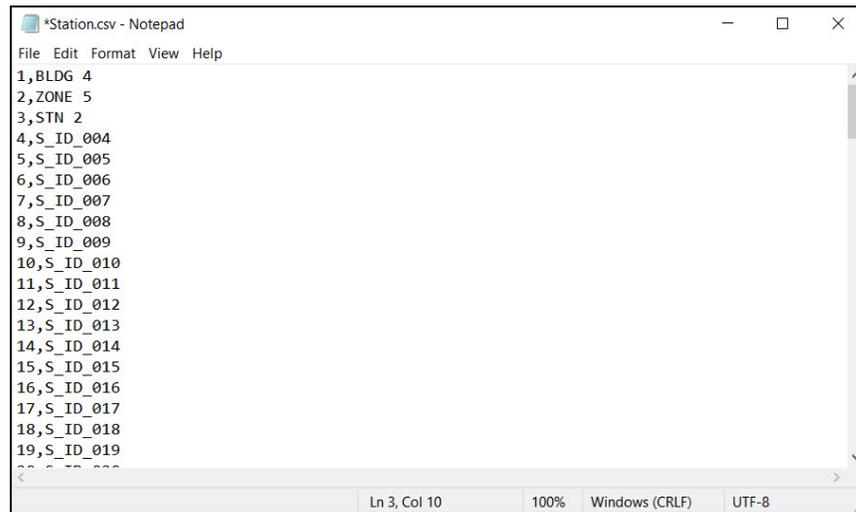

Figure 47: Station ID .csv File Opened in Notepad

5. Any existing Station or User IDs are displayed. Factory-loaded Station or User IDs have a S_ID_XXX or U_ID_XXX appearance.

6. Delete the existing name and replace it with the desired name. The name can be up to 16 characters long and may be any <u>uppercase letter</u> or <u>number</u>. However, only 8 characters are visible on the instrument screen. If you intend to use the instrument's Display Mode to switch between user and station IDs, make sure that the first 8 characters of each ID are unique.

Importing .csv Files

1. Locate an existing Station ID or User ID .csv file. See above for instructions to generate a .csv file.

2. In the Detail Settings window, click the appropriate **Import csv file**.
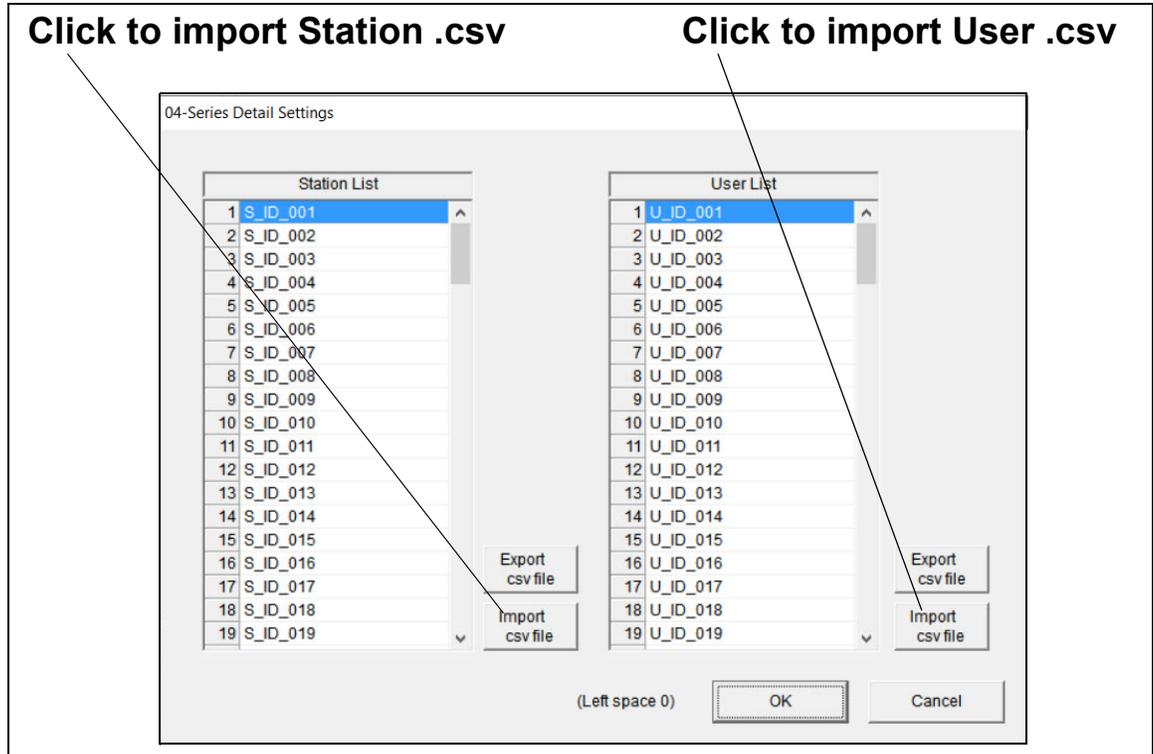
Figure 48: Import .csv File

3. Select the file you want to import and click **Open**.

4. Click **OK** to save changes and return to the Set window.

5. The new station and user ID lists will be visible in the Set window's Station ID and User ID selection boxes. Use the drop down menu to select a current station and user ID.

6. Click **Update** and then **Yes** in the confirmation window to upload the changes to the instrument.

Chapter 8: Set Window (Program Appearance)

The program font and the graph colors can be changed using the Set window.

1. Launch the Datalogging Program.

2. Click **Set**.

Figure 49: Set Window

Changing the Font

1. Click the font name button.
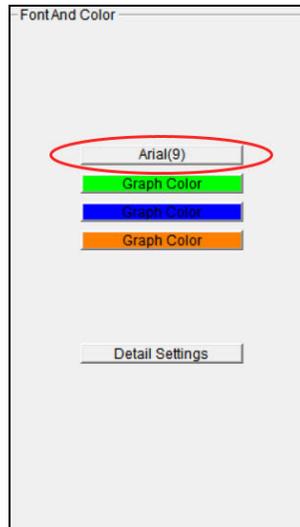
Figure 50: Font Button

2. Choose the font type, style, size, and script in the Font Window.
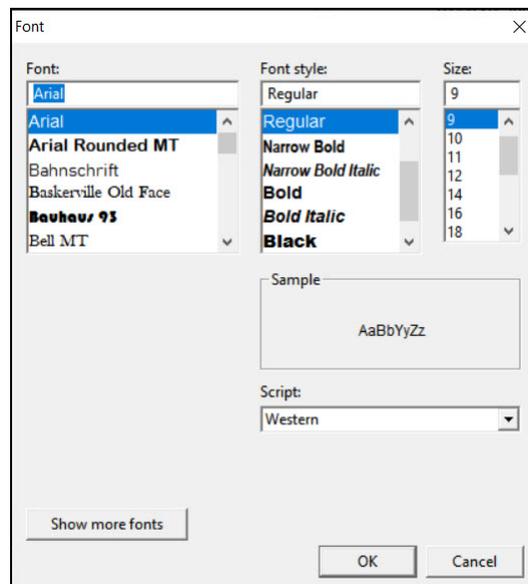
Figure 51: Font Window

3. Click **OK**.

4. The changes will take effect after you exit and restart the program.

Changing Graph Colors

1. Click the appropriate **Graph Color** button on the left side of the Set Window.
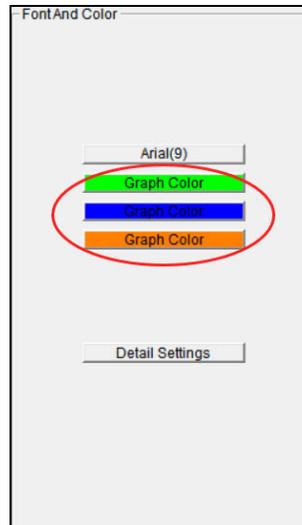
Figure 52: Graph Color Buttons

2. Pick a new graph color from the Color Window.
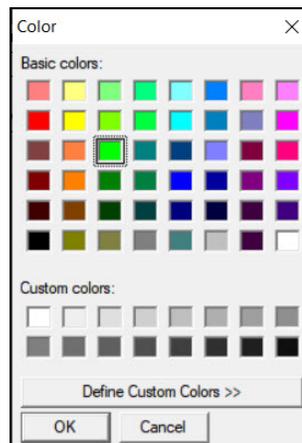
Figure 53: Color Windows

3. If you want to define a custom color, click the **Define Custom Colors** button and the Custom Color Window replaces the Color Window.
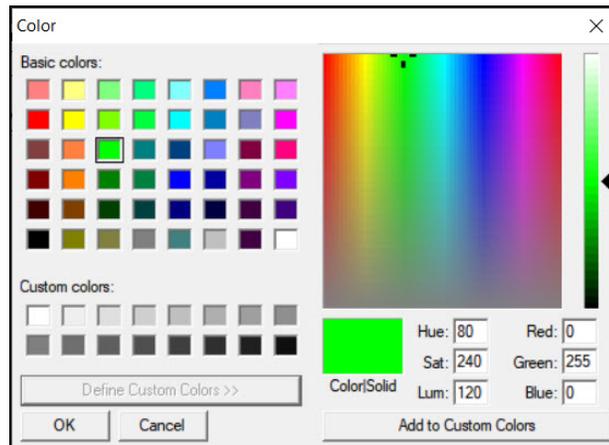

Figure 54: Custom Color Windows

4. Click **OK**.

5. The changes will take effect after you exit and restart the program.

Chapter 9: Spare Parts List

Table 2: Spare Parts List

Part Number	Description
47-5084	USB/IrDA adapter, Legasic, module only (for use with all premier portables)
47-5084RK-01	USB/IrDA adapter, Legasic, module and cable (for use with all premier portables)
47-5085RK	USB A to USB mini cable, 6 feet, for 47-5084RK USB/IrDA adapter
71-0525	04 Series Datalogging Program Operator's Manual (this document)