WESTERN W ▼ **ENTERPRISES** a Scott Fetzer company
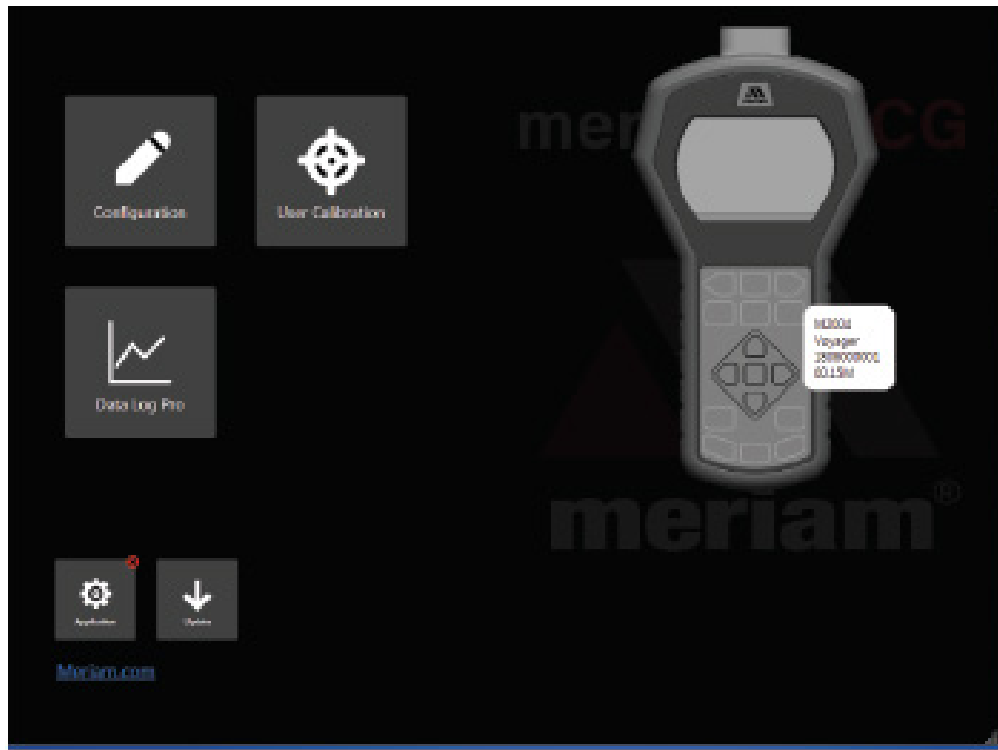
875 Bassett Road
Westlake | Ohio | 44145 | USA
(800) 817-7849
WesternEnterprises.com
Meriam.com

Manufacturer of innovative compressed gas
fittings, regulators & measurement tools.

User Manual

meriSuite CG Application

Contents

General Information

Notification Statements

Disclaimer

Every precaution has been taken in the preparation of this manual. Nevertheless, Meriam assumes no responsibility for errors or omissions or any damages resulting from the use of the information contained in this publication, including, without limitation, incidental, special, direct or consequential damages. MERIAM MAKES NO REPRESENTATIONS OR WARRANTIES WITH RESPECT TO THE ACCURACY OR COMPLETENESS OF THE CONTENTS HEREOF AND SPECIFICALLY DISCLAIMS ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE. Meriam reserves the right to revise this publication and to make changes from time to time in the content hereof without obligation to notify any person of such revision or changes.

In no event shall Meriam be liable for any indirect, special, incidental, consequential, or punitive damages or for any lost profits arising out of or relating to any services provided by Meriam or its affiliates.

It is not possible for Meriam to identify all foreseeable uses or misuses, therefore all persons involved in commissioning, using, or maintaining this product must satisfy their self that each intended application is acceptable.

Copyright

This publication is proprietary to Meriam and no ownership rights are transferred. Neither this manual, nor any of the material contained herein, may be reproduced without the prior written consent of Meriam.

Trademark information

All other trademarks are the property of their respective owners.

Glossary

Words and phrases with their definitions.

Words & phrases	Definitions or explanations
Button or key	▪ A button always refers to an area on the screen that you can click to select functionality. ▪ A key always refers to hardware push buttons on the keyboard that you can press.
Dashboard	▪ The dashboard is the initial window that displays in meriSuite CG application. The dashboard gives you access to the different functions in the application.
Meriam Calibration	Meriam calibration refers to any calibration completed at Meriam with Meriam traceability. Meriam calibration includes: ▪ Oven calibration. ▪ Multipoint Meriam adjustment.
User Calibration	User calibration refers to any calibration done outside of Meriam with non-Meriam traceability. User calibration includes: ▪ Multipoint user calibration or adjustment

Tips for using meriSuite CG

How does meriSuite CG benefit you?

- With meriSuite CG, you can configure your device or sensor to display information the way your company needs to use it.
- The meriSuite CG application can configure data logging requirements and Data Log Pro.

USB cable and your computer

⚠ **WARNING**

For use only in non-hazardous locations (safe locations)
Connect the USB cable to your device and to your computer to configure any sensors you wish to include.

Battery outline

NOTICE

Watch for the battery outline
Do not attempt to modify or update your device when only the outline of the battery icon is visible.

## *Close meriSuite CG first, then turn off your device*

NOTICE

Do not turn off the power on the device while it is communicating with meriSuite CG. The device displays dashes and the word USB ACTIVE while meriSuite CG is communicating with a device or sensor.

- Close meriSuite CG first, disconnect the USB, and turn off your device.
- As long as USB ACTIVE remains visible, Auto Off is suspended.

Watch for a yellow dot on a tab

- A yellow dot appears on a tab in meriSuite CG to indicate that you have made changes to settings but you have not saved them yet. See Figure 1 and Figure 2 below.
- You may click the **Write** button to save the changes you made.

Figure 1: Yellow dot on an active tab. See the red circle in the figure below.
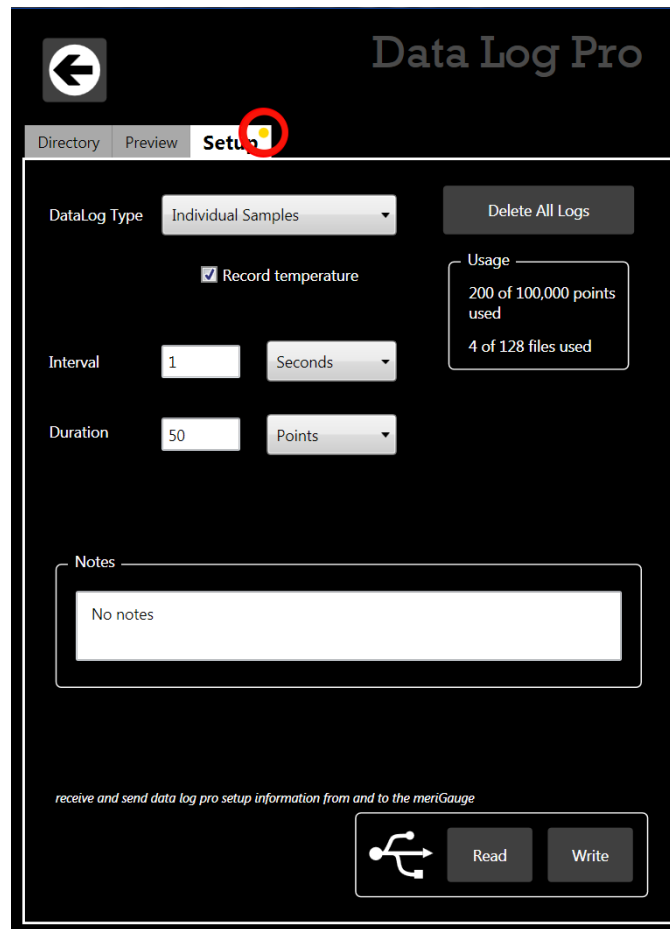
(Watch for a yellow dot on a tab continued)

Figure 2: Yellow dot on an inactive tab. See the red circle in the figure below.
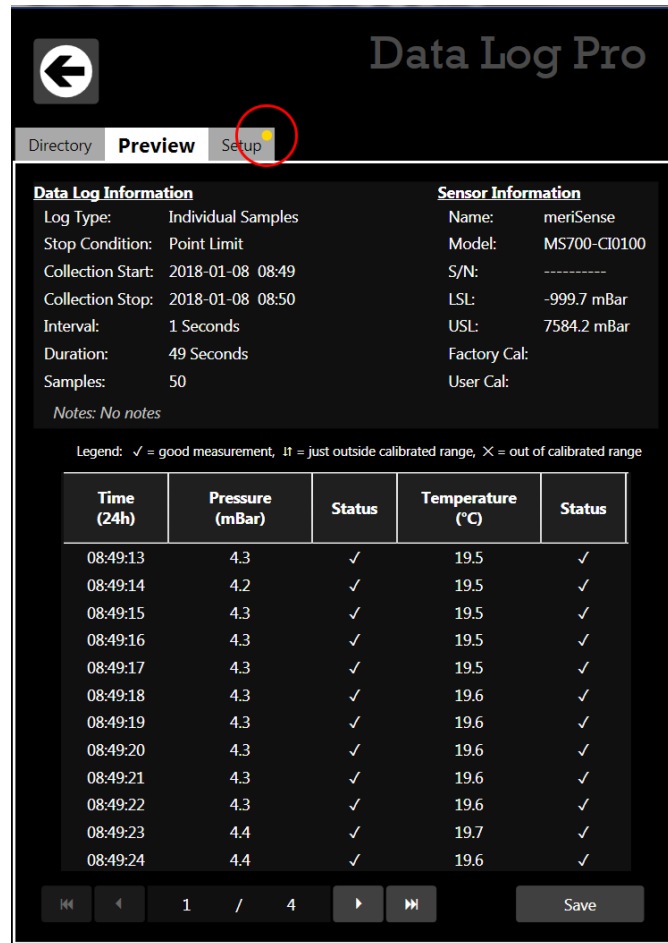
Year-Month-Date format

- ▪ The meriSuite CG application displays the date in year-month-day format.
- ▪ For example: 2016-04-22 (YYYY-MM-DD).

Hours:Minutes:Seconds format

- ▪ The meriSuite CG application displays the time in **Universal Coordinated Time (UTC)** 24-hour format.
- ▪ For example: 15:05:45 UTC (hours:minutes:seconds).

Connection status

Attached devices

The meriSuite CG application displays the outlines of attached devices on the right with descriptions appearing alongside. *See the figure below.*
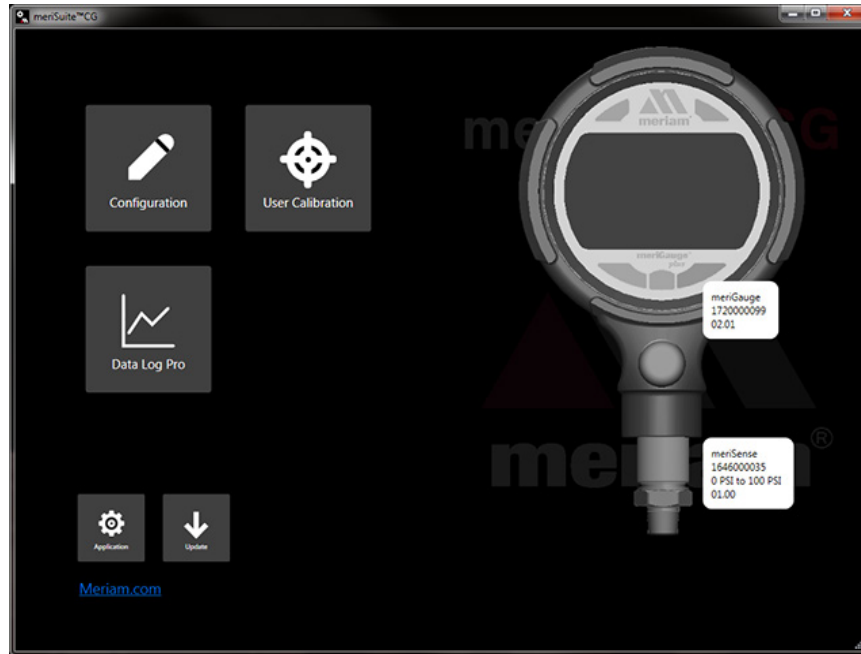
No attached devices

The meriSuite CG application displays no outlines of devices on the right side. *See the figure below.*
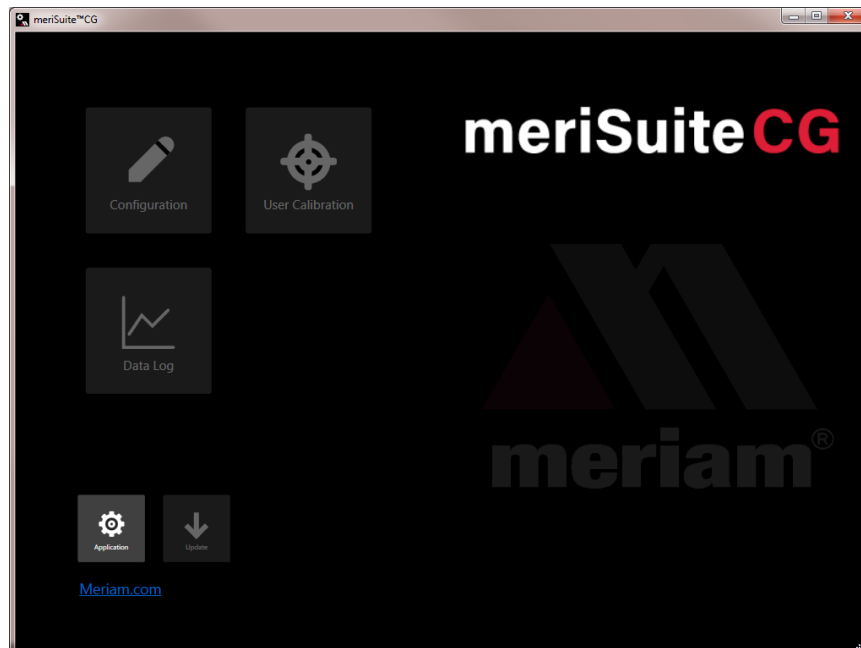
No sensor attached

Notice the bold outline of the device contrasted with the dotted outline of an unattached sensor. *See the figure below.*

Configuration button

Overview of the Configuration button

The **Configuration** button displays a window with multiple tabs:

- Device name or the name you assigned to it.
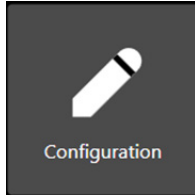- Sensor type or the name you assigned to it, one for each sensor.

Note: These tabs offer you various settings to configure each attached device.

Notification about unsaved settings

It displays a **yellow alert icon** to indicate you have changed a setting and you have not yet saved the setting to the target element or to your computer.

Passwords

Overview of passwords

Passwords are never required to use a device or any sensors.

- The passwords are turned off when the devices are shipped.
- Each device can have its own unique 16-character password. You may use from 1-16 characters: letters, numbers, or symbols, and uppercase and lowercase.
- An internal sensor and a tethered sensor have separate passwords.
- Each device can have its password turned on or turned off independently from any other element.
- meriSuite CG retrieves the passwords stored on the devices.

meriSuite CG uses the password

If you choose to select the **Password Required For Future Access,** then meriSuite CG requests a password for the following actions:

- To modify a device or sensor's configuration.

Note: *This action includes saving to or loading from a file.*

- To update the firmware on a device or sensor.
- To access the Setup tab of Data Log Pro.

meriSuite CG requests a password

If you choose to select the **Password Required For Future Access,** then meriSuite CG requests a password whenever you modify a configuration, update the application or firmware, or calibrate a device.

- Once meriSuite CG accepts a password for one of those actions, the device remains unlocked until it is disconnected from meriSuite CG.
- If you enter the password on one window, meriSuite CG unlocks that device or sensor on its other windows as well.

Data Log Lite has no password

meriSuite CG does not use a password for Data Log Lite since it cannot make any changes to the device.

Request a recovery password

Forgot the password for a device or sensor?

- If you forget a password, contact Meriam to generate a recovery password for you to unlock the device.
- A recovery password disables the password until you create a new password.
- You must have the serial number of the device or sensor to request a recovery password.
- Call + 1 216 281 1100 or send an e-mail to sales@meriam.com.

Recovery password valid for one date

When you call Meriam to generate a recovery password, you may select a date that is convenient for you. If you do not specify a date, the request date is used.

Common features for devices and sensors

The Names field

You can assign your own company designations to each device or sensor.

As Left/As Found Configuration Report button

- You can review a summary of the configuration of the device when it is first connected and the changes you made in the **As Found/As Left Report**.
- The **As Found/As Left Report** cannot report changes made in meriSuite unless you save those new configurations to the device.

Read and Write Configurations

- **Read** and **Write** refer to reading configuration data from a device or sensor or writing new data to them.

NOTICE

Save your configuration changes before you click the **Read** button. After you click the **Read** button, all changes on-screen are replaced with the configuration that is on the device.

Configuring devices

Sync PC time to Gauge

- Click to update the device time and date with your computer.
- The LCD display and data logging use this time and date.

Timeouts

- Backlight.
- Auto Off (Automatic Off).

Display Functions

- Min/Max.
- Accuracy.
- Tare.
- Average.
- Rate of Change.
- Time & Temp.
- Allow zero adjust (ø)
- Leak Test

Configuring sensors

Enabled Units

Select or deselect measurement units to view them on the device with a display.

- The **All** button selects all measurement units.
- The **None** button deselects all measurement units.
- You must select at least one unit before you can **Write** to the device.

Two User Defined Units

You can define the text, multiplier, type, and zero offset for two non-standard or unsupported display units.

Note: *Flow type does not use offset.*

Note: *(multiplier × PSI) + Offset = the displayed value for linear type.*

Damping

Damping rate

Select a **Time Constant***:* 1 second, 2 seconds, 4 seconds, 8 seconds, or 16 seconds.

- When set for 4 second time constant, it takes 4 seconds from the time of the step change until the device displays the full value of the new pressure.

Damping types

Select a type: Exponential, Smart Quick, Smart Normal, or Smart Slow.

- Use adjustable **Exponential** type damping to steady the display when you measure pulsating pressure or flow.
- **Exponential** damping displays approximately 70 % of a step change in pressure at the next display update.

User Calibration button
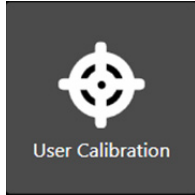
The User Calibration button displays options to calibrate the sensor.

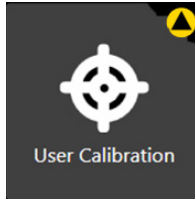The User Calibration button displays a **yellow alert icon** to indicate you have changed a setting and you have not yet saved the setting to sensor.

User Calibration: For authorized personnel only

What does "Calibration Enabled" refer to?

- With a check in the box, Calibration Enabled displays the Live Reading with your current user calibration applied.
- Without a check in the box, it displays Live Reading without your user calibration.

Restore Factory Defaults

This button clears your user calibration from the sensor.

Choose Calibration Unit

- Select the calibration reference units.
- This does not affect or depend on the configuration units.

Begin button…Apply button

1. Click Begin.
2. Select the point.
3. Apply reference pressure within the range shown.
4. Enter the reference value.
5. Save the point.
6. Repeat steps 2-5 until you are done. (You have to change at least one point.)
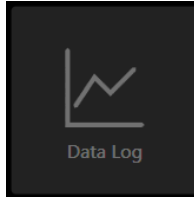7. Click the Apply button.

Customer calibration

You can calibrate the manometer in the field for

1. Zero.
2. Span.
3. Linearity.

Data Log button

## *Overview of Data Log buttons*

Data logging displays three different buttons depending on what you order or on what you add-on at a later time. The **Data Log** button is always unavailable when no device is attached to meriSuite CG.

Data Log Lite

▪ The **Data Log Lite** button displays when you attach a device. Data Log Lite is the free version of data logging. It has *no options*.

Data Log Pro
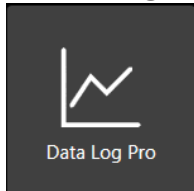
▪ The **Data Log Pro** button displays when Data Log Pro is activated on the device that is attached to meriSuite CG.

Data Log Pro alert
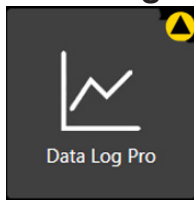
▪ The button displays a yellow alert icon to indicate you have changed a setting and you have not yet saved the setting to the device.

Data Log Lite

Preview tab

Preview the data log

The Preview tab displays the first 10 samples so you can confirm the data to save. If you have fewer than 10, it displays all of your samples.

Status, pressure, and temperature for logs

The Status symbols for pressure and temperature.

Note: *Recording the temperature is dependent on the device and options selected in meriSuite CG.*

The ✓ symbol corresponds to readings that are within the calibrated range.

- The ⇅ and × symbols indicate an abnormal condition.
- The ⇅ symbol indicates readable data.
- The × symbol indicates dashes and no readable data.

The Pressure

The pressure indicates the reading at each 15-second interval in the data set.

The Temperature

If...	then...
you have a **meriGauge system**	- The internal temperature of the sensor displays the measured temperature for each 15-second interval in the data set. - Internal temperature logging on a meriGauge is only available when the log type is *Individual Samples* or *On Demand*. - Internal temperature logging can be turned off in meriSuite CG.
you have a **M2000 Series** device	- Temperature displays only when the MTS RTD PT100 is attached. - The internal temperature is not displayed. - The MTS displays when it is attached (pressure or temperature).

Save a data log file as a TSV file—only option

The **Save** button in Data Log Lite saves the data to a *Tab Separated Values* (*.TSV) file format.

Open a data log file as a TSV file

Double click a TSV file and if it opens in a spreadsheet application, then you do not need to do anything additional.

Examples of spreadsheet applications: *Microsoft Excel, OpenOffice Calc, and Google Sheets.*

Associate the file type "TSV" with an application

If double clicking a TSV file failed to open it in a spreadsheet application, then you have to follow these steps:

1. Open the Control Panel in Windows 10, 8, or 7.
2. In the Control Panel, open Default Programs.

3. Click the Associate a file type or protocol with a program option.
4. Scroll through the list of file extensions until you locate ".tsv" and select it.
5. Click the Change program button.
6. Select the program you want to associate with it and click OK.

Note: *If the program you want to select is not listed, click the Browse button and find the program's executable (.exe) file on the computer. Select the file and click OK to select that program.*

Drag and drop a TSV file into

Drag and drop TSV files to open them. The following steps are similar for these spreadsheet applications: Microsoft Excel, OpenOffice Calc, and Google Sheets.

1. Open *File Explorer* (Windows 8 and 10). Keep File Explorer small enough to see Excel in the background.

Note: *Depending on which version of Windows you have, File Explorer may be known as Windows Explorer, File Manager, or My Computer.*

2. Open *Excel*. It can have a blank spreadsheet or an existing spreadsheet. Drag and drop creates a new spreadsheet.
3. Switch to *File Explorer* and navigate to the location where you saved the TSV file.
4. Select the file and drag-and-drop it in the middle of the blank spreadsheet.
5. Save it as an *Excel* file.

Look for page breaks if you want to print

Excel has a feature called **Page Break Preview** to show you where the page breaks occur in the log file. Change the page breaks, rows to repeat at the top, and other settings as necessary so your printers do not waste paper.

Note: *Other spreadsheet applications offer similar features.*

Data Log Lite by Meriam Process Technologies					
Data Log Information					
Ø					
Collection Date	4/25/2016				
Interval	15 Seconds				
Duration	21.75 minutes				
Samples	88				
Sensor Information					
Name	meriSense				
Model	MS700-CI0100				
S/N:	1607000068				
LSL:	-14.5 PSI				
USL:	100 PSI				
Factory Cal	2/8/2016				
User Cal					
Sample	Time (24h U-4:00)	Pressure (in range)	Pressure (over range)	Temperature (in range)	Temperature (over range)
1	15:12:06	-0.01		21.6	
2	15:12:21	-0.01		21.6	
3	15:12:36	-0.01		21.6	
4	15:12:51	-0.01		21.6	
5	15:13:06	-0.01		21.6	
6	15:13:21	-0.01		21.6	
7	15:13:36	-0.01		21.6	
8	15:13:51	-0.01		21.6	
9	15:14:06	-0.01		21.7	
10	15:14:21	-0.01		21.7	
11	15:14:36	-0.01		21.8	
12	15:14:51	-0.01		21.8	
13	15:15:06	-0.01		21.8	
14	15:15:21	-0.01		21.8	
15	15:15:36	0		21.9	
16	15:15:51	0		21.9	
17	15:16:06	-0.01		21.9	
18	15:16:21	-0.01		22	
19	15:16:36	-0.02		22.1	
20	15:16:51	-0.01		22.2	
21	15:17:06	-0.01		22.3	
22	15:17:21	-0.01		22.3	
23	15:17:36	-0.01		22.3	
24	15:17:51	-0.01		22.3	
25	15:18:06	-0.01		22.4	
26	15:18:21	-0.01		22.3	
27	15:18:36	-0.01		22.3	
28	15:18:51	-0.01		22.3	
29	15:19:06	-0.01		22.4	
30	15:19:21	-0.01		22.4	
31	15:19:36	-0.01		22.5	
32	15:19:51	0.01		22.4	

Page 1   Page 2

Upgrade tab

Upgrade provides information and activation

The Upgrade tab has three areas to guide you through upgrading from Data Log Lite to Data Log Pro. It has:

1. A list of benefits that Data Log Pro offers you.
2. A contact.
3. An enter activation key edit box and an Activate Device button to replace Lite with Pro.

Note: *The Activate Pro button remains unavailable until you enter an activation key number.*
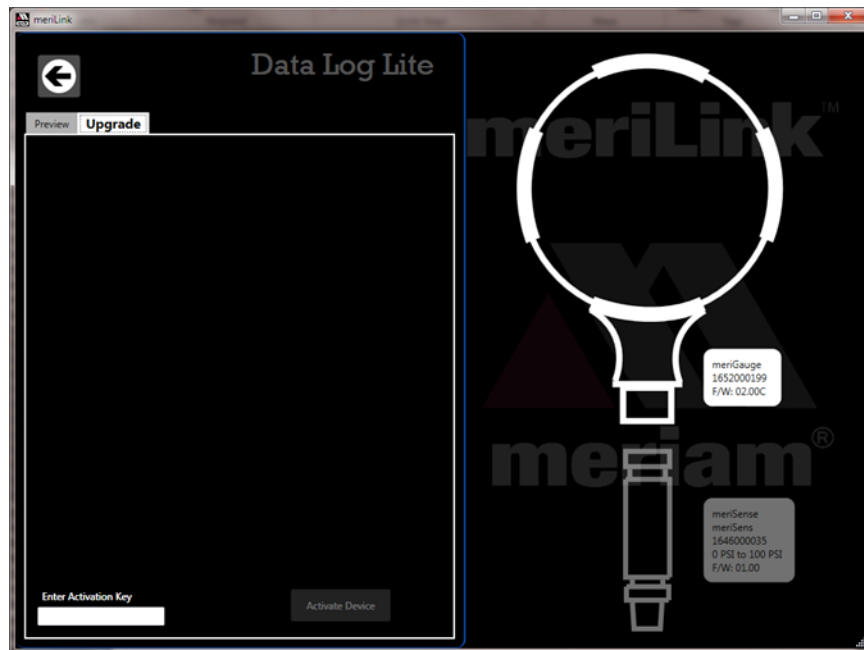
Data Log Pro

An optional purchase
List of benefits

You can:

- Log 100 000 data points.
- Set data logging intervals from 1 second to 24 hours.
- Set one of four data logging types.
- Select the duration: fixed time, fixed data points, or forever.

Note: *Forever is limited by the remaining number of points on the device. Look for these numbers on the Setup tab by clicking the Data Log Pro button.*

- Save logs to two file formats: TSV and PDF format.

How many licenses do I need to operate Data Log Pro?
Do I need a license for each device?

- Yes. One license covers one device and an unlimited number of sensors, copies of meriSuite CG, and computers.
- This license policy differs from some application licenses.

Do I need a license for each computer (meriSuite CG)

- No.

Do I need a license for each sensor?

- No.

Order Data Log Pro or add it later

Order it installed

You can order it so the device comes loaded and ready to use when you receive it. The **Data Log Pro** button appears on the meriSuite CG dashboard when the device is connected.

Add it later

You may add Data Log Pro at any time by calling your distributor or contact the Meriam Sales Team.

- You must have the **serial number** from the device.
- You can find it on the back of the device or you can view it in the meriSuite CG application.
- After you purchase Data Log Pro, your distributor or the Meriam Sales Team will give you an Activation Key.
  - **Phone**   + 1 216 281 1100
 - **Email**   sales@meriam.com

Enter the activation key

- Click the **Upgrade** tab in *Data Log Lite* to enter the activation key.
- After you click the **Activate Device** button, *Data Log Pro* automatically replaces Data Log Lite in meriSuite CG.

Directory tab

View the list of logs on the device in the Directory tab

The **Directory** tab displays all the logs in the memory of the connected device. Two ways to open a log:

- First, double click a log to open it in the **Preview** tab.
- Second, you may click a log from the list to select it and click the **Preview** tab to view it.
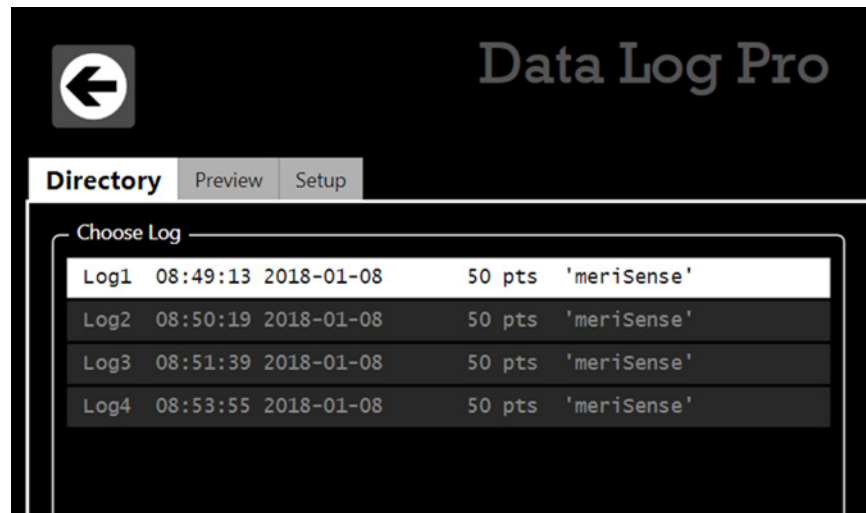
Preview tab

Overview of the Preview tab

When you double click a log in the **Directory** tab, the **Preview** tab opens.

The Preview tab contains seven areas of information:

1. Data Log Information list.
2. Sensor Information list.
3. Notes.
4. Legend.
5. Samples table.
6. Navigation bar.
7. Save button.

Details about the Preview tab

1. Data Log Information list

> A description of items in this list:

> 1. **Log type** indicates the type that was selected in the Setup tab when the log was created.
> 2. **Stop condition** indicates why the log stopped.
>
>   **List of stop conditions:** Manual Stop, Data Complete, Time Limit, Point Limit, Storage Limit, Low Power, Sensor Removed, PC Connection, or Sensor Error
>
> 3. **Collection Start** indicates the day and time the log began.
> 4. **Collection Stop** indicates the day and time the log ended.
> 5. **Interval** is how often data is saved but it does not display with the On Demand option.
> 6. **Duration** displays how long the log actually recorded data. This may or may not be the Duration you selected in the Setup tab. Check the Stop condition.
> 7. **Samples** indicate the number of readings in the log. They reflect how many data points were saved.

2. Sensor Information list

> ▪ All information in this list was retrieved from the internal sensor (and from an MTS if one was attached) that was attached at the time the device recorded this particular log.

3. Notes

> ▪ The information that displays here comes from the text you enter in the **Notes** box in Data Log Pro **Setup** tab.

4. Legend for the status columns

The samples table has two columns for Status. The legend provides three symbols to indicate the level of confidence for pressure and temperature measurements.

Note: Temperature is included only if you selected Record temperature in the Setup tab.

1. The ✓ symbol corresponds to readings that are within the calibrated range.
2. The ⇅ and × symbols indicate an abnormal condition.
3. The ⇅ symbol indicates readable data but it is out of range.
4. The × symbol indicates dashes on the device and no readable data.

6. Navigation bar

▪   The bar provides you with buttons to jump to the first log or to the last log.
▪   The bar also provides you with buttons to navigate to the previous log or next log.
▪   The numbers in the bar indicate which log out of the total number of logs on the device that you are currently viewing.

7. Save button

Click the **Save** button on the right side and the **Save As** box appears. You can save the file in a PDF and TSV file format.

Setup tab

Overview of the Setup tab

- The Setup tab lists parameters you may change. It gives you usage statistics and it displays three action buttons.
- A yellow dot appears on this tab to remind you that you changed a setting and have not saved it.

Parameter Choices

Four data logging types

1. **Individual Samples** refers to actual measurements taken at fixed intervals.
2. **Average only** refers to average measurements over the intervals you selected. It takes measurements every 200 ms.
3. **Average with peaks** refers to average measurements over the intervals you selected. It also saves the maximum and minimum measured values during the interval you saved. It takes measurements every 200 ms.
4. **On Demand** refers to manually recording actual measurements rather than at fixed intervals.

Interval types

You select Seconds, Minutes, or Hours from a drop-down menu and enter a number.

Duration types

- You can select: *Minutes*, *Hours*, *Days*, *Forever*, or *Points* and enter a number.
- Selecting Forever, makes the number box disappear.

Note: *Forever* *is limited by the remaining number of points on the device. Look for these numbers on the **Setup** tab in Data Log Pro.*

Notes edit box

Notes you enter in this edit box appear in the Preview tab, the TSV file, and the PDF file. This field can hold up to 64 characters.

Usage statistics

Usage presents the amount of memory available on the device for data logging in two ways:

1. The number of data points used out of a maximum of 100 000.
2. The number of logs used out of a maximum of 128.

Delete All Logs

This button deletes all the logs on the device. This does not affect the files you saved to the computer in the **Preview** tab.

Note: *If the device has a password, then clicking this button requires you to enter a password. This password was created in the **Configuration** tab for device.*

Read

After pressing this button, Data Log Pro reads the parameters from the device and displays them in the **Setup** tab.

NOTICE

Save your configuration changes before you click the Read button. After you click this button, all changes on-screen are replaced with the configuration that is on the device.

Note: *If the device has a password, then clicking this button requires you to enter a password. This password was created in the **Configuration** tab for device.*
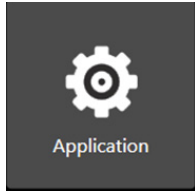
Write

This button remains unavailable until you make a change in the **Setup** tab. It saves the new setup parameters to the device. It overwrites whatever was on the device.

Note: *If the device has a password, then clicking this button requires you to enter a password. This password was created in the **Configuration** tab for device.*
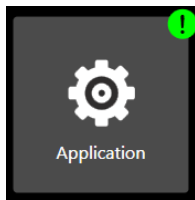
Application button

Overview

The Application button displays a window with three sections:
  ▪ About.
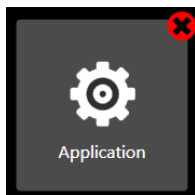 ▪ Available Update.
  ▪ Language Selection.

Application notifies you of available updates

It displays a green alert icon with an exclamation mark to indicate an *Available Update.* After clicking this button, it displays the following message:

"PLEASE BE ADVISED! If you choose to install the update at this time, you will lose unsaved configuration information or data log setup changes. Be sure to save that information to a file or **Write** *it to the connected device."*

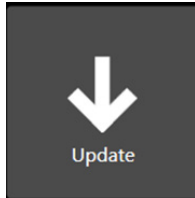## Application notifies you of no internet connection

It displays a red alert icon with an "x" to indicate"

"There is no connection to the update server. This is usually caused by the PC not having internet connectivity or the server may be temporarily unavailable."

Update button

Overview

The **Update** button displays a window with multiple sections:

- The **first** section alerts you to updates for the device.
- The **second** section alerts you to updates for **each** sensor that you attach to the device.

Update notifies you of available updates

It displays a green alert icon to indicate an update is available for the firmware in the device or the sensor.

Update notifies you of no internet connection

It displays a red alert icon to indicate:

"There is no connection to the update server. This is usually caused by the PC not having internet connectivity or the server may be temporarily unavailable."

Help

Register your product

We want you to get the most out of your purchase, and that starts with a few, easy registration steps.

1. Go to www.meriam.com

2. In the **Product Registration** section, click **Register** a product.

Find downloads and documents

1. Go to www.meriam.com.

2. In the **Technical Resources** section, click **Learn More**.

3. Select one of these categories to find the files you need:

   ▫ **Product manuals |** *User Manuals and Quick Start Guides*
   ▫ **Downloads |** *Applications (software), firmware, updates, installation instructions*
   ▫ **Certifications |** *Certifications and approvals*
   ▫ **SDS (MSDS) |** *Safety Data Sheets*
   ▫ **Control Drawings |** *Intrinsically Safe Drawings*

Western Contact Information

Address

Western/Scott Fetzer
875 Bassett Road
Westlake   Ohio   44145   USA

Telephone

- US customers   (800) 817-7849
- International customers   + 1 216 281 1100

Fax

- US & International customers   + 1 216 281 0228

E-mail addresses

- Return Material Authorization & Service & Repair Department
  returnforms@westernenterprises.com
- Sales Department
  meriamsales@westernenterprises.com

Website

meriam.com

Find a local Meriam representative

Use this map to help you find a Meriam representative.

- http://www.meriam.com/representatives-map/