

■ QUICK START  
USER GUIDE

# Data Logger Model L452



# Statement of Compliance

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Chauvin Arnoux®, Inc. d.b.a. AEMC® Instruments certifies that this instrument has been calibrated using standards and instruments traceable to international standards.

We guarantee that at the time of shipping your instrument has met its published specifications.

**An NIST traceable certificate may be requested at the time of purchase, or obtained by returning the instrument to our repair and calibration facility, for a nominal charge.**

The recommended calibration interval for this instrument is 12 months and begins on the date of receipt by the customer. For recalibration, please use our calibration services. Refer to our repair and calibration section at [www.aemc.com](http://www.aemc.com).

**Serial #:** \_\_\_\_\_

**Catalog #:** 2153.51

**Model #:** L452

Please fill in the appropriate date as indicated:

Date Received: \_\_\_\_\_

Date Calibration Due: \_\_\_\_\_



Chauvin Arnoux®, Inc.  
d.b.a AEMC® Instruments  
[www.aemc.com](http://www.aemc.com)

## PRODUCT PACKAGING



Data Logger Model L452  
Cat. #2153.51



US 120V Wall Plug to USB  
Cat. #2153.78



Cable - 6 ft USB  
Cat. #2138.66

### Also Included:

(1) USB Stick with User Manual & DataView® Software

Before using your Data Logger Model L452 for the first time, please take a moment to review the following.

	Signifies that the instrument is protected by double or reinforced insulation.
	CAUTION - Risk of Danger! Indicates a WARNING that the operator must refer to the User Manual for instructions before operating the instrument in all cases where this symbol is marked.
	Risk of electric shock. The voltage at the parts marked with this symbol may be dangerous.
	Bluetooth enabled.
	Ground/Earth.
	Important instructions to read and understand completely.
	Important information to acknowledge.
	Battery.
	Fuse.
	USB socket.
	Compliance with the Low Voltage & Electromagnetic Compatibility European directives (73/23/CEE & 89/336/CEE)
	In the European Union, this product is subject to a separate collection system for recycling electrical and electronic components In accordance with directive WEEE 2002/96/EC.
	The product has been declared recyclable.

## Definition of Measurement Categories (CAT)

- **CAT II** Measurements taken on circuits directly connected to low-voltage installations.  
*Example: power supply to domestic electrical appliances and portable tools.*
- **CAT III** Measurements taken on building installations.  
*Example: distribution panel, circuit-breakers, machines or fixed industrial devices.*
- **CAT IV** Measurements taken at the source of low-voltage installations.  
*Example: power feeders, counters and protection devices.*

## **Precautions Before Use**

These warnings are provided to ensure the safety of personnel. Please read and comply with these precautions.

This instrument complies with safety standard EN 61010-1 (Ed 3) and IEC 61010.2-030 (Ed 1) for voltages and categories of installation, at an altitude below 2000m (6562 ft) and indoors, with a degree of pollution at most equal to 2. The instrument operates at 30V maximum to ground ( $\frac{1}{\text{---}}$ ).

- Do not use this instrument in an explosive atmosphere or in the presence of flammable gases.
- Observe the maximum voltages and intensities assigned between terminals and ground/earth.
- Do not use the instrument if it appears damaged, incomplete, or improperly closed.
- Before each use, check the condition of the insulation of cables, case, and accessories. Anything which appears damaged (even partially) must be reported for repair or scrapping.
- Use only leads and accessories that meet instrument specifications.
- Observe the environmental specifications for the use of this instrument, as specified in § 7 of the User Manual.
- Do not modify the instrument. Use only original replacement parts. Repairs or adjustments must be performed by authorized personnel.
- Replace the batteries when they can no longer hold a charge. Disconnect all cables from the instrument before opening the access door to the batteries, as explained in § 8.1.3 of the User Manual.
- Use protective equipment as required by the environment in which you are operating this instrument.
- When handling probes, probe tips, current sensors, signal conditioners, and alligator clips, keep fingers behind the guard.

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## Installing Batteries

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The Model L452 can operate on two sources of power:

- USB cable connected to an external power source, such as a computer or wall plug adapter.
- Two internal 1.2V AA 2400mAh NiMH rechargeable batteries

You must insert the batteries into the instrument before use, even if you plan to run the instrument on USB power.

1. Holding the instrument firmly, slide the back cover to the right and remove it.
2. Insert the two batteries, ensuring the positive and negative ends are properly aligned.
3. Replace the back cover by aligning the tabs in the cover with the corresponding slots in the instrument body, and then sliding the cover to the left until it locks in place.

**NOTE:** If the Model L452 is stored without the batteries installed, the internal clock will need to be reset, as instructed in the following section.

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## Initial Setup

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**NOTE:** It is recommended to fully charge the batteries before using the instrument (12hrs)

The instrument can be set up two ways:

- DataView Data Logger Control Panel
- Model L452 Front Panel Interface

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### Setup via the DataView® Data Logger Control Panel

Initial setup via the Control Panel requires three steps:

- Installing DataView® and the Data Logger Control Panel on your computer
- Connecting the instrument to the computer via USB cable or Bluetooth
- Configuring the instrument's settings in the Control Panel

#### Installing DataView® and the Data Logger Control Panel

DataView® installation may differ slightly, depending on your operating system. The following instructions are based upon a Windows 7 operating system.

1. Ensure that the USB cable is not connected to the computer. Then insert the USB thumb drive into an available USB port on your computer. If Autorun is enabled, an AutoPlay window appears on your screen. Click "Open folder to view files" to display the DataView® folder. If Autorun is not enabled or allowed, use Windows Explorer to locate and open the USB drive labeled "DataView."
2. When the DataView® folder is open, find the file Setup.exe and double-click it to run the installation program.
3. At the Setup screen, choose the desired language and installation options, then click Install.
4. At the InstallShield Wizard welcome screen, click Next.
5. Read the license agreement and indicate your acceptance by clicking "I accept the terms of the license agreement." Then click Next.

6. At the Customer Information screen, enter your username and company name. Also choose whether this installation is for all users of the computer, or just for your username. Click Next to proceed.
7. The next screen lets you select the DataView® setup. If you choose Custom, you are prompted to select individual components to install. To install the full DataView® product, select Complete and then click Next.
8. You are now prompted to select the Control Panel(s) you want to install. Unless you have other types of AEMC® instruments, we recommend that you select Data Logger and deselect the rest. You should also check the option PDF-XChange, which is a requirement if you plan to create .pdf versions of DataView reports. After you finish selecting and deselecting Control Panels, click Next.
9. Click Install to begin installation.
10. The InstallShield Wizard now installs DataView®. During this process, a status bar displays the progress of the installation. During installation, you may see a warning message about installing DataView® with your AEMC® instrument connected to the computer. If the instrument or USB cable is connected, disconnect it now. Then click OK to proceed.
11. After a few moments, a screen appears informing you that installation is complete. Click Finish to leave the InstallShield Wizard. You are now asked whether or not you would like to view instructions about how to connect the AEMC® instrument or cable to the USB port on the computer. Click Yes to view these instructions, or No to proceed.
12. Close the DataView® Setup screen. The DataView icon now appears on your computer desktop, along with the Data Logger Control Panel icon and the icon(s) for any other Control Panel(s) you have installed.

## Connecting via USB Cable

The following steps assume the instrument has not been previously connected to the computer via USB cable:

1. Plug one end of the cable into the instrument, and the other end into an available USB port on the computer. Then press the ① button until the message POWER ON appears on the LCD. Wait for driver installation to finish before proceeding to the next step (a message appears on your computer when driver installation is complete).
2. Open the Data Logger Control Panel.
3. In the menu bar at the top of the screen, select Help. In the drop-down menu that appears, click the option Help Topics. This opens the Data Logger Control Panel Help system.
4. Use the Contents window in the Help system to locate and open the topic “Connecting to an Instrument.”, which will describe how to connect the Model L452 to the computer.

When the instrument is connected, its name appears under the Data Logger Network in the Control Panel's navigation frame.

## Connecting via Bluetooth

Bluetooth must be enabled and configured on the instrument before you can connect to the computer:

1. At the "home" (Channel 1 & 2 Measurement Data) screen press ► four times to display the Language and Date/Time Format screen displayed. Then press ▼ four times to display the Bluetooth Enabled/Visibility screen.
2. To change the Bluetooth setting, press ◀ twice, then use the ▲ or ▼ button to toggle through the options Enabled and Disabled. When the desired option is displayed, press ◀ to save the selection and leave edit mode. When the Enabled option is selected, the Bluetooth icon  appears in the icon bar.
3. To change the Visibility setting, press ◀ to initiate selection mode. Then press ▼ to select the Visibility field. Press ◀ to initiate edit mode, then use ▲ or ▼ to toggle through the two options Visible and Invisible. (To connect the instrument for the first time, this should be set to Visible.) When the desired option is selected, press ◀ to save the setting and leave edit mode.
4. To change the instrument's Bluetooth name, press ▼ at the Bluetooth Enabled/Visibility screen. This displays the Bluetooth Name screen.
5. To change the editable part of the name, press ◀ twice and use ▲ and ▼ to change the selected character. Then press ► to highlight the next character and use the ▲ and ▼ buttons to make your change. You can also press ◀ to navigate back to a previous character. When finished, press ◀ to save your changes.

With Bluetooth enabled and configured on the instrument, you can connect to the computer. These steps assume the instrument has not been previously connected via Bluetooth:

1. Open the Bluetooth Devices dialog on your computer to pair the Model L452 with your computer. Different operating systems have different steps for opening this dialog, so consult your computer's documentation for instructions.
2. Once the dialog is displayed, click Add a Device. A dialog box appears listing the locally available Bluetooth devices.
3. Find the instrument, which will appear listed by its Bluetooth name as displayed in the Model L452's Bluetooth Name screen. If the name does not appear, check the Bluetooth Enabled/Visibility screen on the Model L452 to ensure the Visibility field is set to Visible. Also ensure the instrument is turned ON. If the name is visible, click it.
4. Enter the pairing code (0000) and click Next. A screen appears informing you that the instrument has been successfully connected with the computer. Click Close to exit the screen.
5. Open the Data Logger Control Panel. In the menu bar at the top of the screen, select Help. In the drop-down menu that appears, click the option Help Topics. This opens the Data Logger Control Panel Help system.
6. Use the Contents window in the Help system to locate and open the topic "Connecting to an Instrument.", which will explain how to connect the Model L452 to the computer.

When the instrument is connected, its name appears under Data Logger Network in the Control Panel's navigation frame.

## Configuring the Instrument via the Control Panel

1. With the instrument connected, click its name under Data Logger Network in the Control Panel.
2. Select Instrument in the menu bar, and click Configure.
3. In the General tab of the Configure Instrument dialog box, set the instrument's clock, date/time format, and user interface language. Press the Help button at the bottom of the dialog box for instructions.

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## Setup via the Model L452 User Interface

In addition to enabling/disabling and configuring Bluetooth, the following configuration parameters can be set through the instrument's front panel interface:

- Language
- Date and time

The "home" screen for the interface is the Channel 1 & 2 Measurement screen. You can return to this screen at any time by giving the  button a short (less than 2 seconds) press.

### Choosing the Interface Language

1. At the "home" screen, press  four times to display the Language and Date/Time Format screen.
2. Press the Enter  button twice.
3. Use the  or  button to cycle through the available languages. Choices are English, Español, Italiano, Deutsch, and Français.
4. When the desired language choice is displayed, press . The text on all screens now appears in the selected language.

### Setting the Instrument Date and Time

1. With the Language and Date/Time Format screen displayed, press . This initiates selection mode; the setting under the Language field will change to blinking reversed text.
2. Press . The setting under Date/Time appears in blinking reversed text.
3. Press  to initiate edit mode.
4. Press  or  to cycle through the available options for date and time format.
5. After you make your selection, press  to save it. All fields on the Language and Date/Time Format screen should now appear in regular text.
6. Press  three times. The Date and Time screen now appears.
7. Press  once to initiate selection mode. The first number in the Date field will blink. To change this number, press  to initiate edit mode. Then use the  and  buttons to increase/decrease this number until the correct value is displayed. To change the other two settings in the Date field, press  to navigate to the number you want to set. Then press  or  to change the setting. You can also use  to navigate back to a previous number.

To change the Time field, press  while the last number in the Date field is selected. This highlights the first number in the Time field.

Alternatively, if you are not in edit mode (for example, you have opened the Date and Time screen and only want to change the time while leaving the date unchanged), press **←** to initiate selection mode. Then while the first number in the Date field is blinking, press **▼**. The first number in the Time field will blink; press **←** to initiate edit mode.

8. Change the numbers in the Time field, using the buttons as explained in the steps above.
9. When you have finished setting the Date and Time values, press **←** to save your changes and leave edit mode.

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## Channel Configuration

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Channels can be configured either through the Data Logger Control Panel or the instrument interface:

- Consult the Data Logger Control Panel Help system for information about configuration through the Control Panel.
- Consult “L452 User Interface Screens” later in this Quick Start Guide for a table listing all configuration screens available through the user interface. For detailed instructions about how to complete these screens, see the Model L452 User Manual.

When configuring through the instrument’s interface, each of the instrument’s two channels has its own set of configuration screens; the screens for one channel are essentially identical to the screens for the other. These screens allow you to:

- Enable and disable the channel. When disabled, measurements are neither recorded nor displayed for the channel.
- Select the type of input. This can be analog (voltage or current), pulse, or event. Note that both channels must have the same input type.
- Define measurement units. These units are used when displaying measurement data.
- Define scaling. This establishes the relationship between input and measurement units.
- Enable and define alarm triggers. This determines whether or not (and under what circumstances) the instrument reports an alarm condition.

Channels must be configured before you start a recording session.

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## Recording Data

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Recording sessions can be configured and scheduled via the Data Logger Control Panel, as explained in the Help. The instrument's user interface also includes a set of screens for controlling and configuring a recording session. These screens enable you to:

- Specify the sample and storage periods to be used during the recording session
- Start a recording session immediately
- Schedule a recording for a future time
- Set a length of time for the recording to run
- Schedule start/stop dates and times for the recording
- Stop an in-progress recording
- Cancel a scheduled recording

The starting point for working with recordings is the Recording and Duration Screen. This is the top-level screen for all recording-related activities. To see this screen, display the "home" (Channel 1 & 2 Measurement Data) screen and press ►.

Consult the Model L452 User Manual for detailed information about configuring recording sessions.

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### Starting a Recording Session

You can start a configured recording session immediately, or schedule one for a later date and time. To start a recording immediately:

1. At the "home" screen press ► to display the Recording and Duration screen. Note the Duration field on this screen. This specifies how long the recording session will run. By default (assuming no session has been already scheduled), this is 15 minutes. The Duration setting cannot be shorter than the Storage Period setting.
2. To change the duration setting, press ◀ to initiate selection mode, and press ▼ to select the Duration field. Then press ◀ to start edit mode, and use the buttons to enter a duration period

For example, to change the duration from 15 minutes to 3 days, select the "1" in "15 min" and press ◀ to begin edit mode. Use ▼ to change this to a zero, then press ► to highlight the number "5." Press ▼ twice to change this to "3." Finally, press ► to select the units, and use the ▲ and ▼ buttons to cycle through available choices. These include s (seconds), min, hours, days, and weeks. Select "days" and press ◀ to save your change. (Alternately, instead of the Duration field you can use the Stop Date and Stop Time screen to determine how long the recording session will run.)

3. To start the recording, press ◀ three times. The recording session starts immediately, using the configuration settings you have specified. The recording session will end when the time interval defined by the Duration field comes to an end.

When a recording is active, the Recording icon ● appears in the icon bar at the top of the screen. This icon appears as a solid circle. If you attempt to turn OFF the instrument by pressing ① while a recording is in progress, the message RECORDING ACTIVE appears on the screen. The ① button is otherwise disabled while a recording is in progress.

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## Scheduling a Recording Session

Instead of starting a recording immediately, you can schedule a recording for a future date and time. Note that you can only schedule one recording at a time; to schedule a new recording (1) the active recording must run to completion, or (2) you must cancel the earlier recording.

1. At the “home” screen press ► to display the Recording and Duration screen.
2. Press ▼ twice to display the Start Date/Time screen.
3. Press ← twice. The first number under Start Date will be highlighted. Use the ▲ and ▼ buttons to increase or decrease the number, and the ► and ◀ buttons to move from one field to the next. Note that when you press ► when the last number in the Start Date field is selected, the selection will move to the first number in the Start Time field. This enables you to edit both the date and time in a single editing session. When you have finished entering the start date and time, press ← to save your changes.
4. You now have two options for defining when the recording session ends. One is by setting the Duration field in the Recording and Duration screen. The other is through the Stop Date/Time screen.

To set the Duration field, press ▲ twice to return to the Recording and Duration screen. Then complete the Duration field.

To set the time and date for when the recording stops, press ▼ at the Start Date/Time screen. This displays the Stop Date/Time screen.

5. By default, the settings on this screen reflect the Duration setting. For example, if the Duration field is set to 24 hours, the stop date and time will be set to 24 hours after the start date and time. To change this, press ← twice. Then use the buttons to select and change settings, similar to setting the start date and time fields as described in step 3 above.
6. When you have finished entering the stop date and time, press ← to save your changes. The Duration field in the Recording and Duration screen will be updated to reflect the duration defined by your start date/time and stop date/time.
7. If it is not already displayed, navigate to the Recording and Duration screen. Press ← twice. Then use the ▲ and ▼ buttons to toggle through the options. When Schedule appears, press ← to select it.

When a recording is scheduled, the Recording icon ○ appears in the icon bar at the top of the screen. This icon appears as an empty circle. You can turn OFF the Model L452 with a scheduled recording pending. When the start date and time occurs, the instrument will turn itself back ON for the duration of the recording, after which it will automatically turn OFF.

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## Stopping or Cancelling a Recording Session

As noted previously, you cannot start or schedule a recording session if (1) a recording is active, or (2) another scheduled recording is pending. In either case, you will need to stop or cancel the recording before you can start or schedule another.

To stop an active recording or cancel a scheduled one, display the Recording and Duration screen.

- If a recording is active, the only option available on this screen will be Stop.
- If a recording is scheduled, the only option available on this screen will be Cancel.

In either case, press the ← button three times. The recording will be immediately stopped or canceled, depending on the selection. The Recording icon disappears, indicating no recording is currently active or scheduled. In addition, the remaining recording-related screens will become active, enabling you to start or schedule a new recording.

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## L452 User Interface Screens

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The primary interface for working with the Model L452 consists of configuration and display screens. These screens appear in the instrument's front-panel LCD. The instrument's buttons enable you to navigate these screens, select options, and enter information.

Screens are grouped into six categories:

- **Measurement Data** screens display data currently being measured on Channel 1 and/or Channel 2.
- **Recording** screens configure, start, schedule, stop, and cancel a recording session.
- **Channel 1 Configuration** screens enables/disables Channel 1 and determines what data is recorded by the channel and how it is displayed.
- **Channel 2 Configuration** screens are identical to Channel 1 Configuration screens, except they apply to the instrument's Channel 2.
- **Instrument Configuration** screens configure general instrument settings.
- **Instrument Information** screens display read-only settings on the instrument.

Each category has a "top level" screen; this is the first screen that appears when you move to the category. The following table is a graphical representation for how these categories and screens are organized.

Measurement Data	Recording	Channel 1 Configuration	Channel 2 Configuration	Instrument Configuration	Instrument Information
Channels 1 & 2 Measurement Data ("Home" screen)	Start/Stop/Schedule/Cancel a Recording, and Set Duration	Enabled/Disabled and Input Type	Enabled/Disabled and Input Type	Language and Date/Time Format	Model Number, Serial Number, and Firmware Revision
Channel 1 Measurement and Min/Max Data	Sample Period and Storage Period	*Units	*Units	Memory Erase and Min/Max Reset	Instrument Name and Location
Channel 2 Measurement and Min/Max Data	Start Date and Time	**Low Scaling	**Low Scaling	Configuration Reset	Recording Sessions
	Stop Date and Time	**High Scaling	**High Scaling	Date and Time	Recording Name
		**Alarm Trigger	**Alarm Trigger	Bluetooth Enable/Disable and Visibility	
		**Upper Limit and Lower Limit	**Upper Limit and Lower Limit	Bluetooth Name	
		Equivalence (Pulse Input Only)	Equivalence (Pulse Input Only)		
		Trigger (Event Input Only)	Trigger (Event Input Only)		
*Not displayed when input is set to Event. **Not displayed when input is set to Event or Pulse.					

Pressing the ► or ◀ button while in navigation mode moves from one category of screens to the next. These buttons work from any screen in a category. For example, pressing ► from any of the three Measurement Data screens displays the top-level Recording screen. The categories are "cyclical," pressing ► at an Instrument Information screen moves to the top-level screen in Measurement Data, while pressing ◀ in a Measurement Data screen displays the top-level Instrument Information screen.

The ▲ and ▼ buttons let you navigate the screens within each category. These are also cyclical; pressing ▲ in a category's top-level screen displays the bottom level screen in that category, while pressing ▼ at the bottom-level screen displays the category's top-level screen.

## Repair and Calibration

To ensure that your instrument meets factory specifications, we recommend that it be scheduled back to our factory Service Center at one-year intervals for recalibration, or as required by other standards or internal procedures.

### For instrument repair and calibration:

You must contact our Service Center for a Customer Service Authorization Number (CSA#). This will ensure that when your instrument arrives, it will be tracked and processed promptly. Please write the CSA# on the outside of the shipping container. If the instrument is returned for calibration, please specify whether you want a standard calibration, or a calibration traceable to N.I.S.T. (includes calibration certificate plus recorded calibration data).

**Ship To:** Chauvin Arnoux®, Inc. d.b.a. AEMC® Instruments  
15 Faraday Drive  
Dover, NH 03820 USA  
Phone: (800) 945-2362 (Ext. 360)  
(603) 749-6434 (Ext. 360)  
Fax: (603) 742-2346 or (603) 749-6309  
E-mail: [repair@aemc.com](mailto:repair@aemc.com)

(Or contact your authorized distributor.)

Costs for repair, standard calibration, and calibration traceable to N.I.S.T. are available.

**NOTE:** You must obtain a CSA# before returning any instrument.

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## Technical and Sales Assistance

If you are experiencing any technical problems, or require any assistance with the proper operation or application of your instrument, please call, mail, fax or e-mail our technical support team:

Chauvin Arnoux®, Inc. d.b.a. AEMC® Instruments  
200 Foxborough Boulevard  
Foxborough, MA 02035 USA  
Phone: (800) 343-1391  
(508) 698-2115  
Fax: (508) 698-2118  
E-mail: [techsupport@aemc.com](mailto:techsupport@aemc.com)  
[www.aemc.com](http://www.aemc.com)

**NOTE:** Do not ship instruments to our Foxborough, MA address.



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