

Vernier LabQuest® Mini

User's Manual

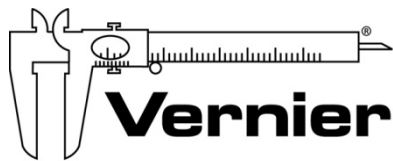
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Introduction

The Vernier LabQuest Mini is a versatile data-collection interface that can be used to collect data while attached to a computer. More than 50 Vernier sensors are available for use with LabQuest Mini.

By following this guidebook, you will learn to set up and collect data with a Macintosh® or Windows® computer.

Quick Start Guide (for those who hate to read manuals)

To get started on a computer right away without the extra information provided below, follow these easy steps.

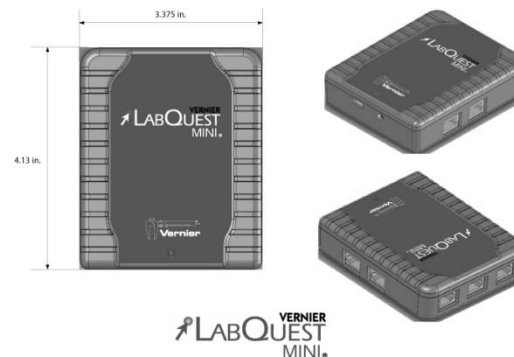
1. Install the Logger Lite® software, which is included with the interface.
2. Connect the small end of the USB cable to the USB port on the end of LabQuest Mini.
3. Connect the other end of the cable to a USB port on your computer.
4. Start Logger Lite, and you are ready to collect data. Note: LabQuest Mini can also be used with Logger Pro® software, version 3.8.2 or newer.

LabQuest Mini Components

The LabQuest Mini package contains the hardware and software that you need to connect LabQuest Mini to a computer. The package includes

- LabQuest Mini interface
- Logger Lite software CD
- User's manual
- USB cable

The LabQuest Mini interface contains three analog channels (CH 1, CH 2, and CH 3), two digital channels (DIG/SONIC 1 and DIG/SONIC 2), a USB computer connection, and a port for auxiliary power.



Providing Power to LabQuest Mini

Power for LabQuest Mini is supplied by the USB port of the computer. It does not require auxiliary AC power or batteries. You simply connect the interface to the computer through the USB connection and it is ready to collect data.

Please note: There may be configurations that limit how much power is available from the USB port on the computer. Such configurations may include having other devices that require USB power connected at the same time. You may receive a warning from the computer that it cannot provide enough power for the LabQuest Mini. In these situations, you may disconnect the other devices or you may use an external supply (order code LQ-PS) to provide power to LabQuest Mini.

Connecting Sensors

Sensors can be divided into two basic types—analogue and digital. Examples of analogue sensors include Temperature Probes, pH Sensors, Force Sensors, and Oxygen Gas Sensors. Up to three analogue sensors can be connected to LabQuest Mini at a time. Three jacks for the analogue sensors (CH1–CH3) are located on the top side. The analogue ports accept British Telecom-style plugs with a right-hand connector.



An analogue sensor connected to LabQuest Mini

Examples of digital sensors include Motion Detectors, Radiation Monitors, Photogates, and Rotary Motion Sensors. Up to two digital sensors can be connected to LabQuest Mini at a time. The digital ports (DIG/SONIC1 and DIG/SONIC2), which accept British Telecom-style plugs with a left-hand connector, are located on the right side of the interface.



A digital sensor attached to LabQuest Mini

Connect the sensor to the appropriate port. An important feature of LabQuest Mini is its ability to detect auto-ID sensors, and automatically set up an experiment. If you are not using sensors with the auto-ID ability, you can easily set them up with the experiments provided with Vernier's Logger Lite and Logger Pro software.

Logger Lite Software

The Logger Lite software is contained on the CD provided with LabQuest Mini.

To install the software on a Windows computer

1. Place the enclosed Logger Lite CD in the CD-ROM drive of your computer.
2. If you have Autorun enabled, the installation will launch automatically; otherwise, choose Settings→Control Panel from the Start menu. Double-click on Add/Remove Programs. Click on the Install button in the resulting dialog box.
3. The Logger Lite installer will launch, and a series of dialog boxes will step you through the installation of the Logger Lite software. We recommend that you accept the default directory.

To install the software on a Macintosh computer

1. Place the Logger Lite CD in the CD-ROM drive of your computer and double-click on the CD icon.
2. Double-click the "Install Logger Lite" icon and follow the on-screen instructions.

Computer and Software Requirements

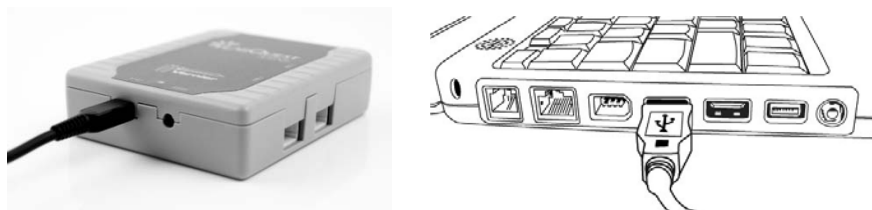
To use LabQuest Mini on a computer, you will need Logger Lite software (included) or Logger Pro software version 3.8.2 or newer running on a Macintosh OS[®] OS X 10.4.11, or 10.5.1 or newer or a Windows computer running Windows[®] XP SP2/SP3, Vista, Vista 64, Windows 7, or Windows 7 64, or newer. (If you own an earlier version of Logger Pro 3 software, you can upgrade to the current version at no cost by visiting our web site for updates: www.vernier.com/downloads/). Check the software for complete computer system requirements.

If you use National Instruments LabVIEW software, you can obtain a LabVIEW VI for collecting with the LabQuest Mini. Go to: www.vernier.com/labview/.

LabQuest Mini is also compatible with our beta version of Logger Pro for Linux. Information concerning this option is available on our web site at www.vernier.com/soft/lpl/index.html.

Before you continue, check to see that Logger Lite or Logger Pro is installed on your computer. If not, now would be a good time to install it.

Attaching LabQuest Mini to a Computer



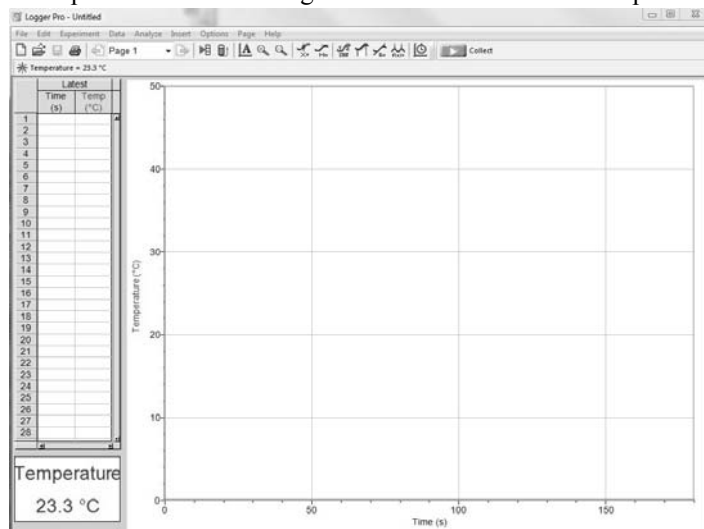
The LabQuest Mini computer connection is located on the end of the interface. Plug the small end of the USB cable into the LabQuest Mini USB connection. Plug the other end of the USB cable into the USB port on the computer.

Starting Logger Lite Software and Preparing to Collect Data

Locate the Logger Lite icon on your computer and double-click on it, or use the Start menu (Windows). An important feature of LabQuest Mini is its ability to detect auto-ID sensors, and automatically set up an experiment.

If Logger Lite does not detect your LabQuest Mini and/or a sensor is not connected, the Collect button will appear faded . Make certain that you have LabQuest Mini connected to the USB port of your computer. Choose New from the File menu. The software will again attempt to communicate with the interface. If this does not work, consult *Appendix A*.

If you have connected a Stainless-Steel Temperature Probe, for example, and the computer has detected the LabQuest Mini interface, you will see a screen that shows a graph of temperature vs. time along with the live readout at the top.



Logger Pro screen showing the automatic detection of a Temperature Probe

Where to Go Next

Lab Books

Vernier offers over 500 experiments in subject areas including middle school science, biology, physics, environmental science, earth science, chemistry, physical science, math, and more. For more information visit www.vernier.com/cmat.

Software Tutorials

Both Logger *Pro* and Logger *Lite* data-collection programs contain interactive tutorials that help you and your students learn the programs. You can also search the Help section in each program to find answers to specific questions.

Appendix A: Troubleshooting Tips

Problem	Cause/Solution
When LabQuest Mini is used with the computer, the Logger Lite or Logger <i>Pro</i> Collect button appears faded.	The Collect button does not appear because the computer could not communicate with the interface. Check each of the following: <ul style="list-style-type: none"> • Make sure the cables are firmly attached. • Confirm that the port on the computer is working properly.
The sensor is not working.	This may be happening because the sensor is not plugged into the correct port. Since LabQuest Mini has 3 analog and 2 digital ports, make sure that the sensor is connected to the proper port.
The readings are noisy.	LabQuest Mini may be picking up interference from other electrical devices, such as a computer. Move the LabQuest Mini interface at least 30 cm from another computer.

Warranty

Vernier warrants this product to be free from defects in materials and workmanship for a period of five years from the date of shipment to the customer. This warranty does not cover damage to the product caused by abuse or improper use.

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