

# **Data Logger for Agilent Handheld Capacitance Meter**

## **Quick Start Guide**



**Agilent Technologies**

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## Manual Part Number

U1701-90033

## Edition

Third Edition, December 1, 2009

Printed in Malaysia

Agilent Technologies, Inc.  
5301 Stevens Creek Blvd.  
Santa Clara, CA 95052 USA

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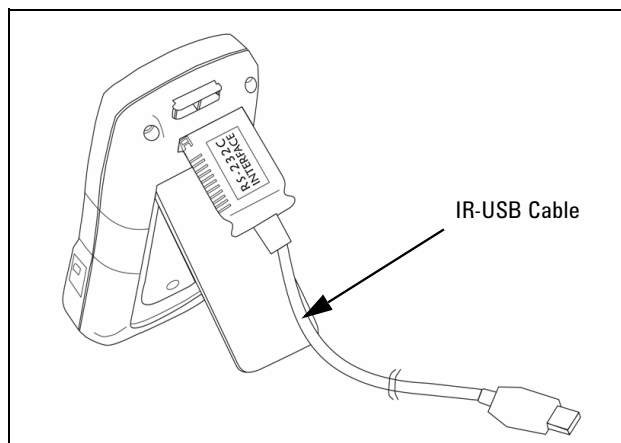
## Contents

## Introduction

The Agilent U1701A/U1701B Dual Display Handheld Capacitance Meter has a bi-directional (full duplex) communication capability that enables data transfer from the meter to a PC. The required accessory for this communication capability is an optional IR-USB cable, to be used with an application software that is downloadable from the Agilent Web site.

The Data Logger for Agilent Handheld Capacitance Meter is an application software that is targeted to extend the capabilities of the U1701A/U1701B Dual Display Handheld Capacitance Meter. The software provides a simple graphical user interface (GUI) that allows you to perform basic controls and measurements through the PC. The installation of this application software will not affect the electronic characteristics, specifications, functions, and operations of the instrument.

For instrument set up and operation, please refer to the *Agilent U1701A Dual Display Handheld Capacitance Meter User's and Service Guide*, U1701-90032 or *Agilent U1701B Dual Display Handheld Capacitance Meter User's and Service Guide*, U1701-90055.



**Figure 1** Cable connection for remote communication

**NOTE**

The IR-USB cable functions as a serial RS-232 that connects the instrument to the USB port of the computer.

# System Requirements

## Hardware Requirements

### Instrument Requirements:

- U1701A/U1701B Dual Display Handheld Capacitance Meter
- IR-USB Cable\*

### PC Requirements

For best performance, ensure that your PC meets the following minimum requirements:

PC Requirements	Specification (Minimum)
Processor	Pentium® 1 GHz 32-bit (x86) processor or better
Operating System	Microsoft® Windows 2000/XP Service Pack 3
Available RAM	512 MB minimum (1 GB recommended)
Hard Disk Space	1 GB minimum (2 GB recommended)

## Software Requirements

Software Requirements	Version (Minimum)
Prerequisites	Microsoft .NET Framework 3.5* Agilent VEE Pro 9.0 Runtime* PL-2303 USB-Serial Driver*

\* Bundled with Data Logger for Agilent Handheld Capacitance Meter installer.

\* The IR-USB cable and the USB-Serial cable are used interchangeably throughout this document. Both terms are referring to the same item.

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## A. Hardware and Data Logger Installation

### Hardware Installation

**NOTE**

Make sure you have downloaded the Data Logger for Agilent Handheld Capacitance Meter application software from the Agilent Web site and install it to your PC before connecting the IR-USB cable to your PC. The IR-USB cable driver will be installed automatically as a pre-requisites prior to install the application software.

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- 1 Connect the USB connector of the IR-USB cable to an available USB port on your PC and the other end of the cable with the text side facing upwards to the instrument.
- 2 Your PC will automatically detect the USB cable.

## Data Logger Software Installation

You may obtain the application software from Agilent Web site to install the Data Logger for Agilent Handheld Capacitance Meter.

### NOTE

Prior to installing the Data Logger, ensure that your PC meets the minimum system requirements for installation and operation processes.

### Downloading the application software from the Web

- 1 Go to <http://www.agilent.com/find/handheldlcr>, and download the Data Logger for Agilent Handheld Capacitance Meter application software.
- 2 Save the file to any location on your hard disk.
- 3 Disconnect any instrument that is connected to your PC and close all other applications on your PC.
- 4 Double-click the saved installation file to begin installation.
- 5 If you do not have any of the prerequisites installed, the InstallShield Wizard software prerequisite will appear.
- 6 Click **OK** to begin the installation of the listed missing prerequisites.
- 7 Once the above installation has completed, installation of the Data Logger will proceed as normal.
- 8 Follow the instructions on your screen to begin the installation.
- 9 Click **Finish** once the installation has completed.
- 10 A shortcut to this software will be created on your desktop as shown in [Figure A-1](#).

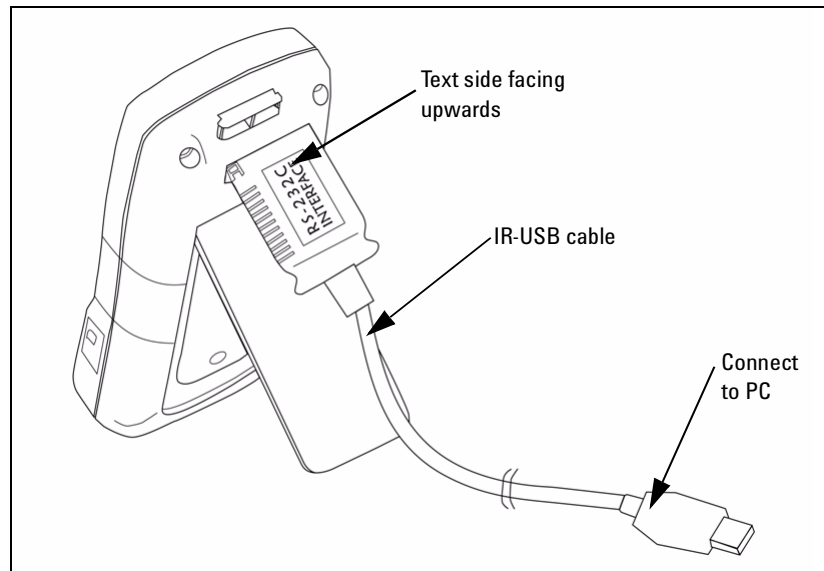


**Figure A-1** Shortcut to Data Logger

## B. Equipment Setup and Connection

Connect the U1701A/U1701B Dual Display Handheld Capacitance Meter to a PC for instrument control:

- 1 Set up the communication parameters of the capacitance meter and the PC you are using. The default values for baud rate, parity, data bit, and stop bit in the capacitance meter are 9600, n, 8, and 1 respectively.
- 2 Ensure that the USB driver and the IR-USB transfer software has been installed on your PC.
- 3 Attach the optic side of the cable to the communication port on the meter. Ensure that the text side is facing upwards.
- 4 Plug the USB cable terminal end into the USB port of your PC.
- 5 Use the data transfer software to retrieve the data that you need.

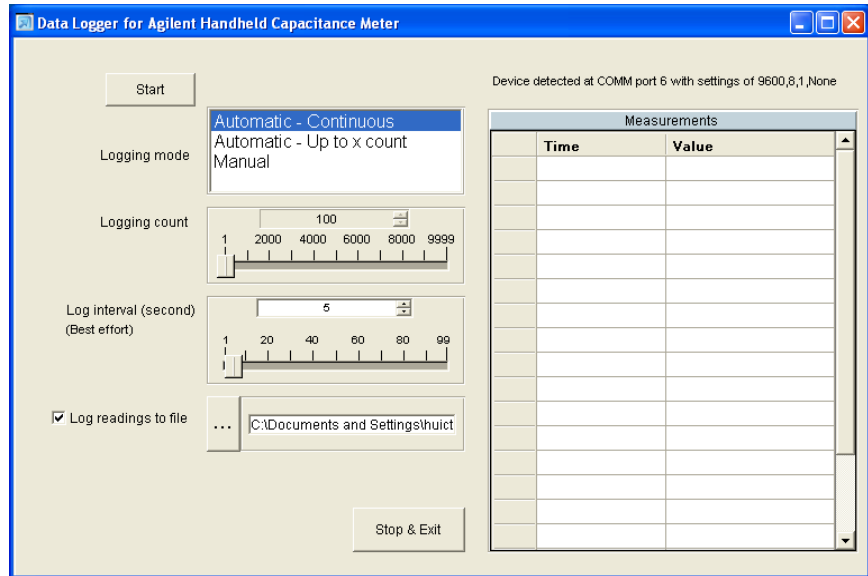


**Figure B-1** Hardware Connection Setup

## C. Using the Data Logger

The Data Logger software is a simple graphical user interface (GUI) that allows you to perform basic controls and measurements through a PC. The Data Logger allows data to be transferred from the meter to the PC via the IR-USB cable with data storing option. Three types of logging mode are available in the Data Logger software:

- Automatic -Continuous
- Automatic -Up to  $x$  count
- Manual



**Figure C-1** Data Logger Window

### NOTE

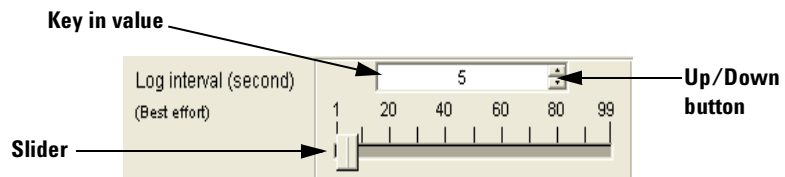
When the logging interval is set to 4 s or below, running the Data Logger for extended duration will produce discrepancy in the number of theoretically logged data and actual logged data. The timing inaccuracy is caused by the application loading of a PC and the time stamp that is shown by the Data Logger is based on the PC's time; at the instance the data is retrieved from the meter and after it is processed and displayed.

## Automatic - Continuous Mode

The Automatic-Continuous mode allows the data to be transferred to the PC automatically and continuously with a specific log interval.

### Procedures:

- 1 Click to select Automatic-Continuous in the logging mode list on the Data Logger window.
- 2 In this mode, the logging count option is disabled and you can only set the desired log interval in seconds by clicking on the up/down button, click and drag the slider or key in the required value as shown below.



- 3 Uncheck the Log readings to file option if you do not wish to store data in the PC. The Log readings to file option is enabled by default. The data will be saved as a .csv file.
- 4 Click  to save the data a different location. A Log file name: dialog box will appear. Enter the file name in the File name text box. Choose the desired folder in the Save in: drop-down list.
- 5 Click **Save** and your data will be saved as a CSV file with the specified file name and in the respective location.
- 6 Click on **Start** button to start your data logging. The data will be displayed as Time and Value on Measurements table.
- 7 Click on **Stop & Exit** to stop data logging and exit the Data Logger window.

### NOTE

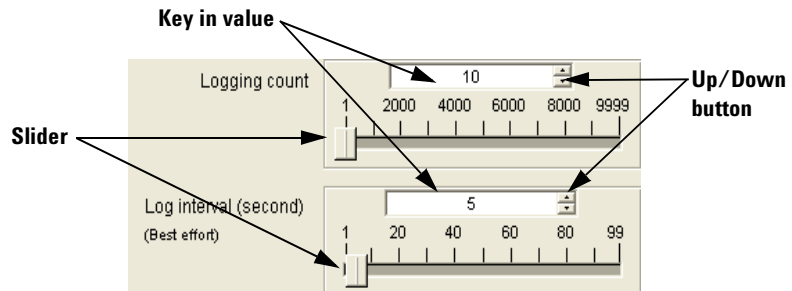
To start a new data logging, you need to stop and exit from the Data Logger window.

## Automatic - Up To $x$ Count Mode

The Automatic-Up to  $x$  count mode allows the data to be transferred to the PC at a specific logging count and log interval set by you.

### Procedures:

- 1 Click to select Automatic-Up to  $x$  count in the logging mode list on the Data Logger window.
- 2 Set the desired logging count and log interval in seconds by clicking on the up/down button, click and drag the slider or key in the required value as shown below.



- 3 Uncheck the Log readings to file option if you do not wish to store data in the PC. The Log readings to file option is enabled by default. The data will be saved as a .csv file.
- 4 Click  to save the data a different location. A Log file name: dialog box will appear. Enter the file name in the File name text box. Choose the desired folder in the Save in: drop-down list.
- 5 Click **Save** and your data will be saved as a CSV file with the specified file name and in the respective location.
- 6 Click on **Start** button to start your data logging. The data will be displayed as Time and Value on Measurements table.
- 7 Click on **Stop & Exit** to stop data logging and exit the Data Logger window.


### NOTE

To start a new data logging, you need to stop and exit from the Data Logger window.

## Manual Mode

The Manual mode allows the data to be transferred to the PC manually.

### Procedures:

- 1 Click to select Manual in the logging mode list on the Data Logger window. In this mode, the logging count option and log interval option is disabled.
- 2 Uncheck the Log readings to file option if you do not wish to store data in the PC. The Log readings to file option is enabled by default. The data will be saved as a .csv file.
- 3 Click  to save the data a different location. A Log file name: dialog box will appear. Enter the file name in the File name text box. Choose the desired folder in the Save in: drop-down list.
- 4 Click **Save** and your data will be saved as a CSV file with the specified file name and in the respective location.
- 5 Click on **Start** button to start your data logging.
- 6 Click on **Press to log** button to log one data at a time. The data will be displayed as Time and Value on Measurements table.
- 7 Click on **Stop & Exit** to stop data logging and exit the Data Logger window.

### NOTE

To start a new data logging, you need to stop and exit from the Data Logger window.

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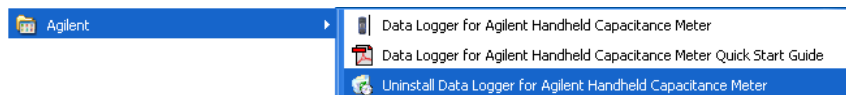
## D. Removing the Data Logger

The software can be removed either from the from the Windows Start menu or by the Windows Add/Remove Programs.

### Uninstalling from the Windows Start menu

To remove the software from the Windows Start menu, proceed as follows:

- 1 Select **Start** (Windows taskbar) > **All Programs** > **Agilent** > **Uninstall Data Logger for Agilent Handheld Capacitance Meter**.

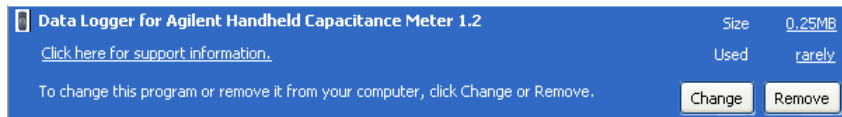


- 2 The Windows Installer dialog box will appear and prompt you to confirm the complete removal of the application.
- 3 Click **Yes** to proceed. To cancel the uninstallation, click **No**.
- 4 Follow the instructions on the screen to complete the removal process.

## Uninstalling from the Windows Add/Remove Programs

To remove the software by the Windows Add/Remove Programs, proceed as follows:

- 1 Select **Start** (Windows taskbar) > **Control Panel** to open the Control Panel window.
- 2 Double-click **Add or Remove Programs**. The Add or Remove Programs window will appear containing a list of currently installed programs.
- 3 Browse the list of currently installed programs to search for the **Data Logger for Agilent Handheld Capacitance Meter 1.2** as shown below.



- 4 Click **Remove** to uninstall the selected application.
- 5 The Add or Remove Programs dialog box will appear and prompt you to confirm the complete removal of the application. Click **Yes** to proceed. To cancel the uninstallation, click **No**.
- 6 Follow the instructions on the screen to complete the removal process.

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