Agilent GUI Data Logger Software for U1210 Series, U1230 Series, U1240 Series, U1250 Series, and U1270 Series

Quick Start Guide

Agilent Technologies

Notices

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Introduction

The U1211A, U1212A, U1213A, U1231A, U1232A, U1233A, U1241A, U1242A, U1241B, U1242B, U1251A, U1252A, U1253A, U1251B, U1252B, U1253B, U1271A, U1272A, U1273A, and U1273AX multimeter models are equipped with a bi-directional (full duplex) communication capability that eases data storing from the multimeter to your PC.

The required accessory for this communication capability is the U1173A IR-USB cable and the Agilent GUI Data Logger application software, which is available for free on the Agilent Web site (http://www.agilent.com/find/hhTechLib).

NOTE The U1173A IR-USB cable functions as a serial RS-232 port that connects the multimeter to the USB port of your PC.

System requirements

Before installing the Agilent GUI Data Logger application software, ensure that your PC meets the following minimum system requirements.

Processors	1.6 GHz Pentium® IV or higher
32-bit OS platforms	Windows® XP, Windows® Vista, or Windows® 7 (32-bit and 64-bit[1])
Memory	512 MB or higher (recommended)
Hard disk space	1 GB free disk space at runtime
Supported models	Agilent U1211A, U1212A, U1213A, U1231A, U1232A, U1233A, U1241A, U1242A, U1241B, U1242B, U1251A, U1252A, U1253A, U1251B, U1252B, U1253B, U1271A, U1272A, U1273A, and U1273AX
Prerequisite	Microsoft .NET Framework version 3.5[2], PL2303 driver

[1] Agilent GUI Data Logger for Windows 7 64-bit support is a 32-bit application running on a WOW64 (Windows-on-Windows 64-bit) emulator.

[2] Available with any of the following redistributable packages on the Microsoft® Web site:

Microsoft® .NET Framework version 3.5 Redistributable Package, or
Microsoft® .NET Framework version 4.0 Redistributable Package.

Installing and Connecting the Multimeter

NOTE You are recommended to disconnect the U1173A IR-USB cable before installing the software.

1 Download the Agilent GUI Data Logger Software for the U1210 Series, U1230 Series, U1240 Series, U1250 Series, and U1270 Series from the webpage below: http://www.agilent.com/find/hhTechLib.

2 Click setup to begin the installation. The required drivers and Microsoft .NET Framework are automatically installed if they are not detected on your PC.

Figure 1 Agilent GUI Data Logger InstallShield Wizard

3 Click **Start > All Programs > Agilent > Agilent GUI Data Logger** to run the Agilent GUI Data Logger. Alternatively, you can click the Agilent GUI Data Logger shortcut icon on your desktop.

Figure 2 Agilent GUI Data Logger shortcut icon

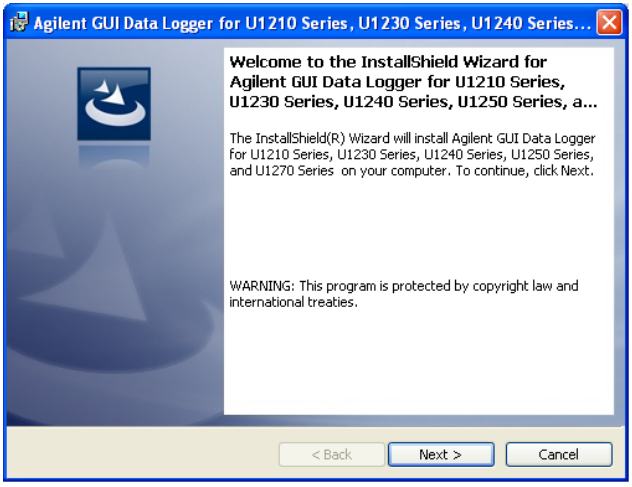


Figure 3 Agilent GUI Data Logger for U1210 Series, U1230 Series, U1240 Series, U1250 Series, and U1270 Series

4 Connect the multimeter to your PC via the U1173A IR-USB cable (Figure 4) and turn on the multimeter.

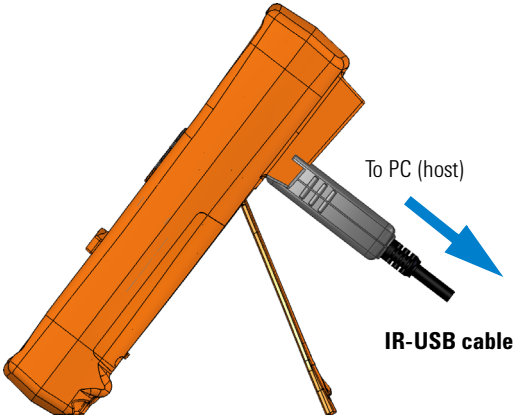


Figure 4 Cable connection for remote communication

NOTE The U1173A IR-USB cable is an optional accessory. You can purchase the cable at your nearest Agilent Sales Office.

5 Click on the **Communication** panel to configure the multimeter's communication settings.

i Select **Auto** (Figure 5) to allow the Agilent GUI Data Logger to automatically search for a connected multimeter.

ii Select **Manual** (Figure 5) to manually update the Agilent GUI Data Logger's communication settings.

Select the communication Port that your multimeter is connected to. Clicking **Update port** will update the port selections that are available on your PC.

Match the Baud Rate, Parity, and Data Bits settings (Figure 5) to the settings of the connected multimeter.

NOTE

- For U1271A, U1272A, and U1273A models, only baud rates of 9600 and 19200 bits/second are available.
- For U1231A, U1232A, and U1233A models, the baud rate, parity, and data bits settings are fixed to 9600 bits/second, None, and 8-bits respectively.

Figure 5 Communication panel

6 Click **Connect**.

If the Agilent GUI Data Logger's communication settings match the multimeter's communication settings, the Meter Connected notification will be shown in the status bar (Figure 6).

Figure 6 Meter connection successful

7 If the connection fails (Figure 7), check that the U1173A IR-USB cable is connected securely to the multimeter and that the multimeter is turned on.

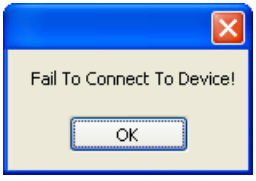


Figure 7 Meter connection failed

NOTE The RS-232 port is not meant for hot plugging or hot swapping. Disconnecting the U1173A IR-USB cable when it is in use will crash the Agilent GUI Data Logger.

8 You can check the multimeter properties by clicking **Properties** (Figure 8).

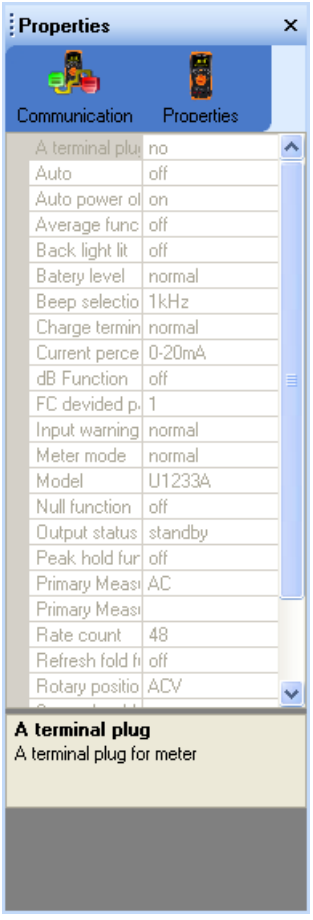


Figure 8 Properties panel

Data Logging/Virtual Meter

1 Set the rotary switch of the multimeter to the position of the preferred measuring function.

NOTE To know more about the functions at different rotary switch positions, refer to the respective multimeter's *User's Guide*.

2 Click the Data Logging icon and click the icon.

3 The measured value from the multimeter is shown on the Virtual Meter. Click the **Virtual Meter** tab to view the Virtual Meter (Figure 9).

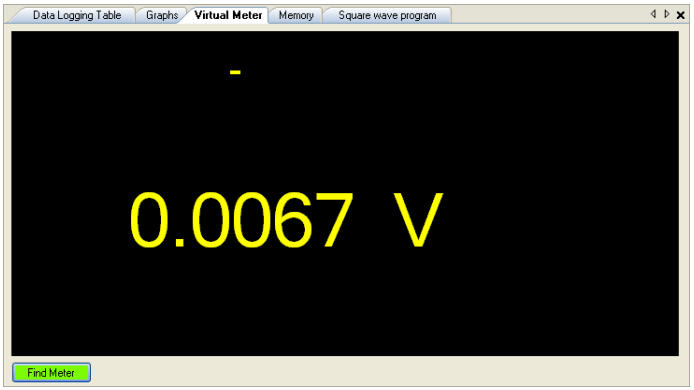
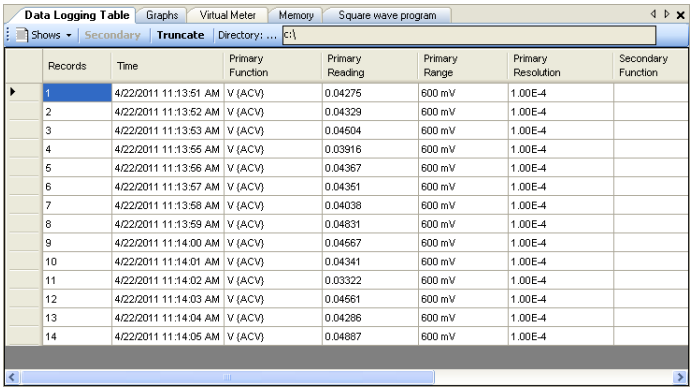


Figure 9 Virtual Meter

4 Measurement data from the multimeter is captured automatically and sorted in the Data Logging Table. Click the **Data Logging Table** tab to view the Data Logging Table (Figure 10).



Records	Time	Primary Function	Primary Reading	Primary Range	Primary Resolution	Secondary Function
1	4/22/2011 11:13:51 AM	V (ACV)	0.04275	600 mV	1.00E-4	
2	4/22/2011 11:13:52 AM	V (ACV)	0.04329	600 mV	1.00E-4	
3	4/22/2011 11:13:53 AM	V (ACV)	0.04604	600 mV	1.00E-4	
4	4/22/2011 11:13:55 AM	V (ACV)	0.03916	600 mV	1.00E-4	
5	4/22/2011 11:13:56 AM	V (ACV)	0.04367	600 mV	1.00E-4	
6	4/22/2011 11:13:57 AM	V (ACV)	0.04351	600 mV	1.00E-4	
7	4/22/2011 11:13:58 AM	V (ACV)	0.04038	600 mV	1.00E-4	
8	4/22/2011 11:13:59 AM	V (ACV)	0.04831	600 mV	1.00E-4	
9	4/22/2011 11:14:00 AM	V (ACV)	0.04667	600 mV	1.00E-4	
10	4/22/2011 11:14:01 AM	V (ACV)	0.04341	600 mV	1.00E-4	
11	4/22/2011 11:14:02 AM	V (ACV)	0.03322	600 mV	1.00E-4	
12	4/22/2011 11:14:03 AM	V (ACV)	0.04561	600 mV	1.00E-4	
13	4/22/2011 11:14:04 AM	V (ACV)	0.04286	600 mV	1.00E-4	
14	4/22/2011 11:14:05 AM	V (ACV)	0.04887	600 mV	1.00E-4	

Figure 10 Data Logging Table

NOTE

The Data Logging Table and Virtual Meter are running simultaneously. Figure 11 shows the data logging process.

- The data logger interval is defined as the delay within the PC when it is sending a command to fetch the latest reading.
- The data logger interval's best effort for communication between the PC and the multimeter is subjected to the following conditions:
  - It is dependent on PC activity for USB communications.
  - It is not a true realtime-stamp.
  - It is subjected to software delays when sending commands to obtain readings.

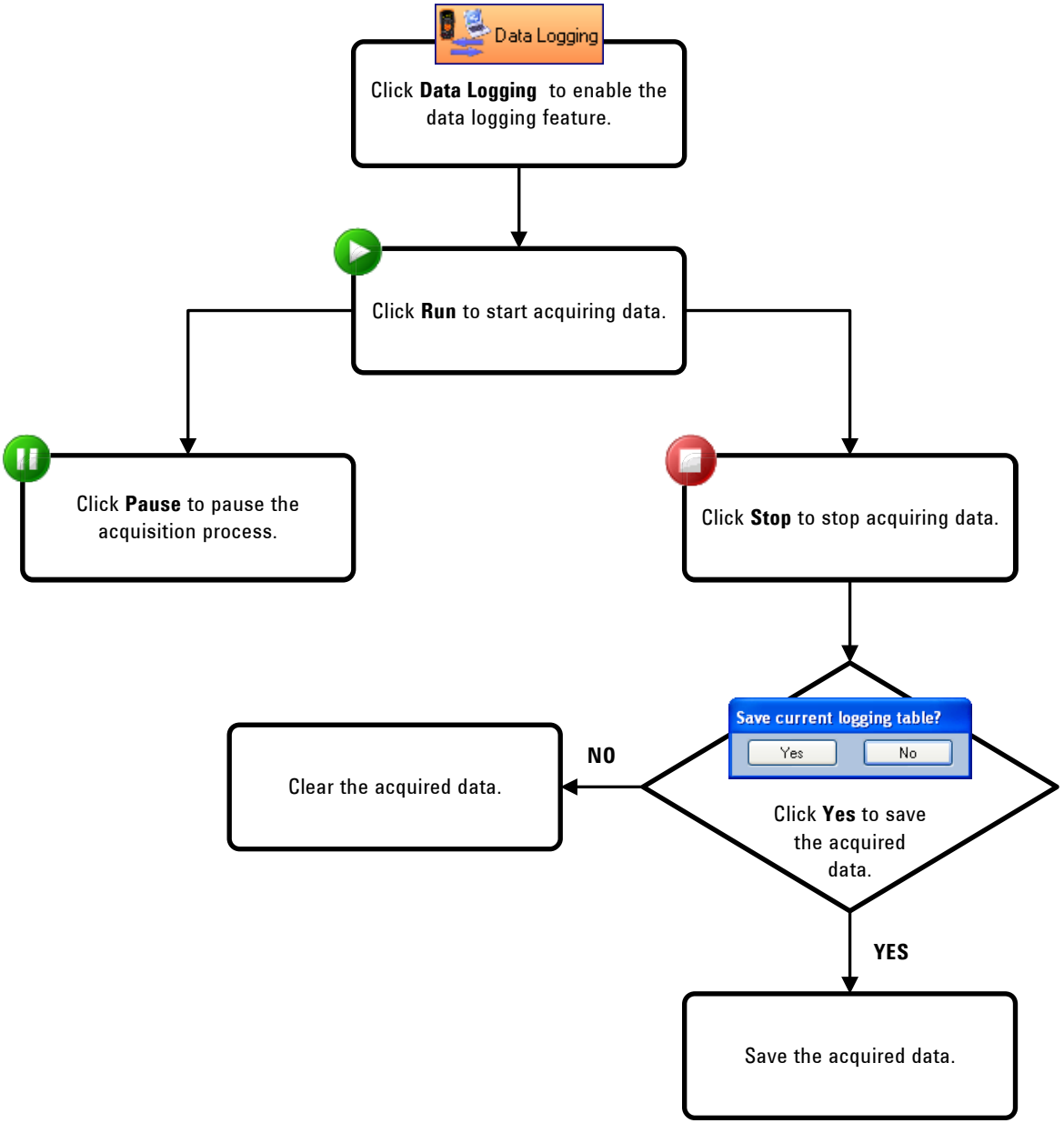


Figure 11 Data logging process

5 You can set the saved data location in the **Data Logging Table** tab.

i Double-click **Directory: ...** as shown in Figure 12.

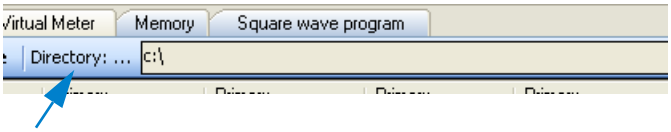


Figure 12 Directory

ii The Select your directory and filename dialog box will appear (Figure 13). Select a file name and path, and click **Save**.

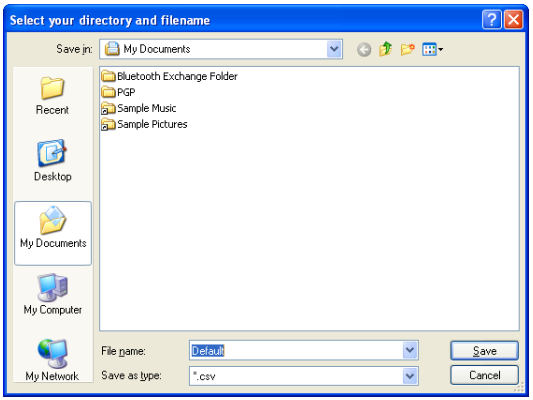


Figure 13 Select your directory and filename

6 You can choose to log the measurement data shown in the secondary display.

NOTE This option is not available for the U1231A, U1232A, and U1233A models.

To activate the secondary display in the Virtual Meter, select the **Frequency** option as shown in Figure 14.

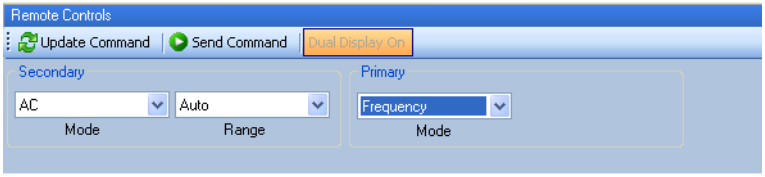


Figure 14 Secondary display options [**Frequency**]

NOTE You can change the maximum number of records in the Data Logging Table by clicking **Preferences > Options**.

7 Click the **Shows** menu (Figure 15) to customize the column display preference.

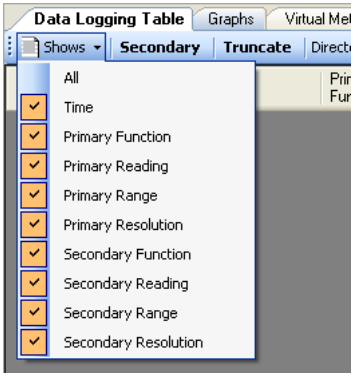


Figure 15 Column display customization

8 To display the measured data in the form of a strip graph, click on the **Graphs** tab (Figure 16). These graphs are meant for display purposes only.

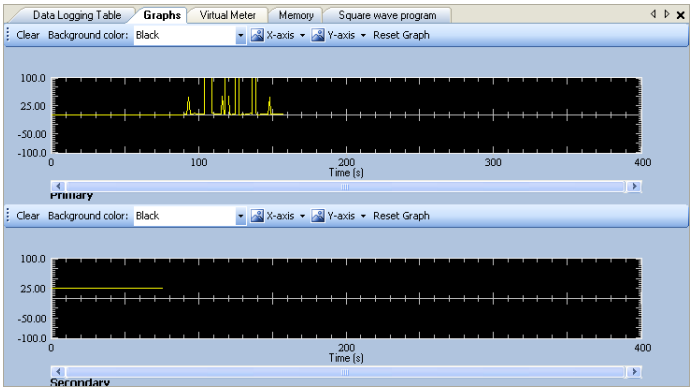


Figure 16 Graph function

Downloading Data from the Multimeter

NOTE

- This option is not available for the U1211A, U1212A, U1213A, U1231A, U1232A, U1233A, U1241A, and U1241B models.
- The event log entries download is only available for the U1271A, U1272A, and U1273A models.

1 You can transfer data from your multimeter to your PC through the Agilent GUI Data Logger. The Agilent GUI Data Logger provides three types of memory downloading modes:
   - Manual Data Logging mode,
   - Auto Data Logging mode, and
   - Event Data Logging mode

2 Click the

icon to select the memory downloading mode.

3 Click the

icon to download the memory data.

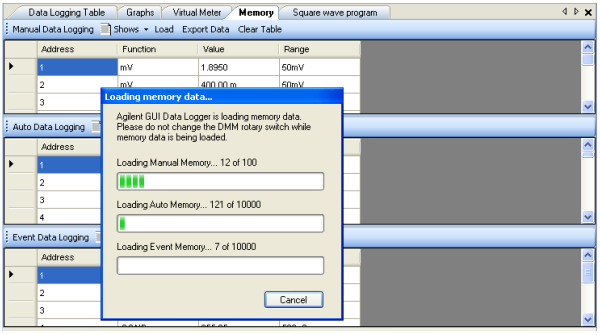


Figure 17 Memory downloading mode

4 To clear the table or to export the data in the table, right-click on any area outside the table. A context menu will appear. Click **Export Data** or **Clear Table**.

Figure 18 Memory context menu

Square Wave Mode (for U1252A, U1253A, U1252B, and U1253B)

NOTE This option is only available for the U1252A, U1253A, U1252B, and U1253B models.

1 Turn the rotary switch of the multimeter to the OUT position.

2 Click the Square Wave icon to activate the square wave mode. There are two types of operations in the Square wave program tab (as shown in Figure 19):

- Manual
- Use Preprogrammed Table

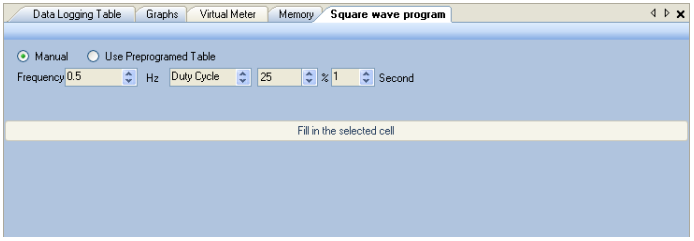


Figure 19 Square wave program operations

The frequency, duty cycle, and pulse width values can be set remotely from the Agilent GUI Data Logger.

When selecting **Use Preprogrammed Table**, use the , , and icons to start, stop, or pause the square wave operation respectively.

NOTE The pulse width setting is applicable for manual operations only.

To input data into the square wave preprogrammable table, follow the instructions below:

1 Set the frequency, duty cycle, and duration accordingly (Figure 19).

2 Drag and drop the frequency value into the **Frequency** column cell in the table (Figure 20).

3 Select the respective **Duty Cycle** and **Duration** column cell and then click **Fill in the selected cell** to input the parameters (Figure 20).

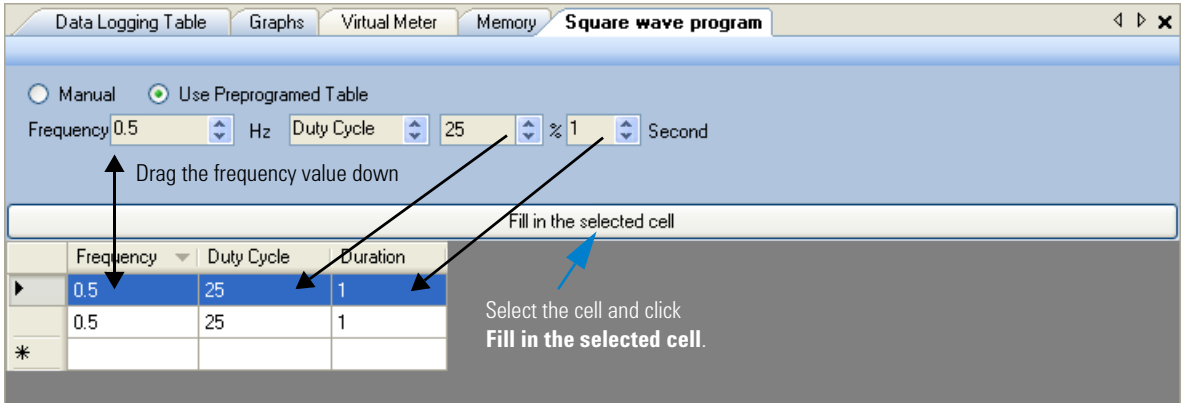


Figure 20 Square wave program settings

Remote Controls

NOTE The **Secondary** display remote controls are not available for the U1231A, U1232A, U1233A, U1241A, U1242A, U1241B, and U1242B models.

1 The multimeter can be controlled remotely according to the rotary switch position selected.

2 Click **Update Command**, to update the list of commands available for the rotary switch position selected. The list of commands can be viewed through the drop-down combo box menu (Figure 21).

3 Click **Send Command** to send the selected command parameters to the multimeter.

NOTE Clicking **Send Command** will stop all on-going data logging operations. Click the Data Logging icon followed by the icon again to restart the data logging operation.

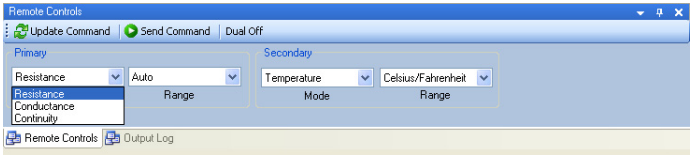


Figure 21 Remote Controls

NOTE Click the icon to view the *Agilent GUI Data Logger Software Help* for more information on other functions and features of the Agilent GUI Data Logger.

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