

34401A

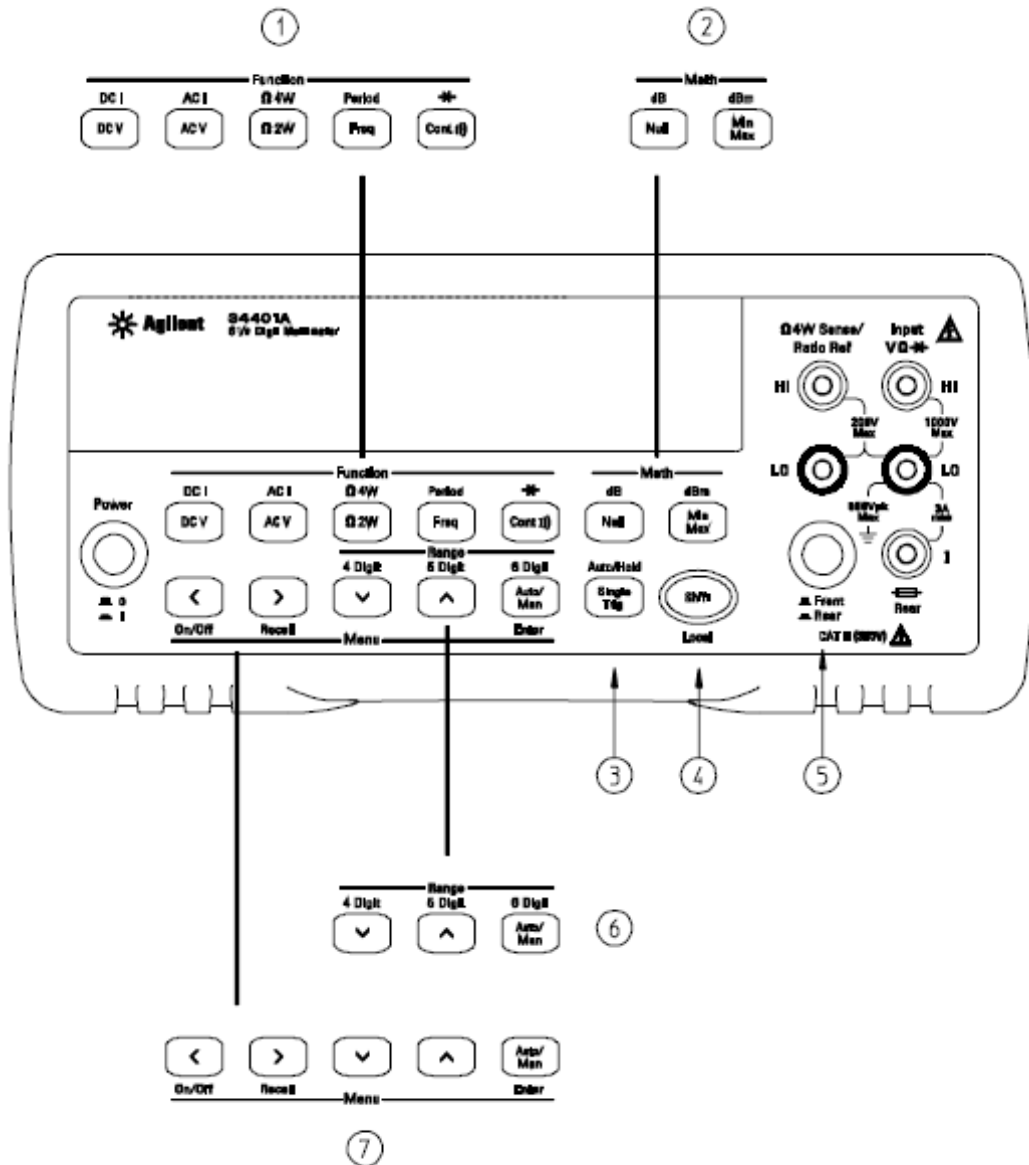
Multimeter Operating Instructions

34401A Multimeter Operating Instructions

This pamphlet is intended to give you (the student) an overview on the use of the 34401A Multimeter. This pamphlet will instruct you on how to make voltage, current, resistance, or frequency (or period) measurements, test continuity and check diodes.

Please visit the Agilent website <http://www.home.agilent.com/agilent/home> to view the complete user manual for more information.

Front Panel



- 1 Measurement Function keys
- 2 Math Operation keys
- 3 Single Trigger / Autotrigger / Reading Hold key
- 4 Shift / Local key
- 5 Front / Rear Input Terminal Switch
- 6 Range / Number of Digits Displayed keys
- 7 Menu Operation keys

Note:

The front panel has two rows of keys to select various functions and operations. Most keys have a *shifted* function printed in **blue** above the key. To perform a shifted function, press Shift (the **Shift** annunciator will turn on). Then, press the key that has the desired label above it. For example, to select the dc current function, press **Shift** DC V.

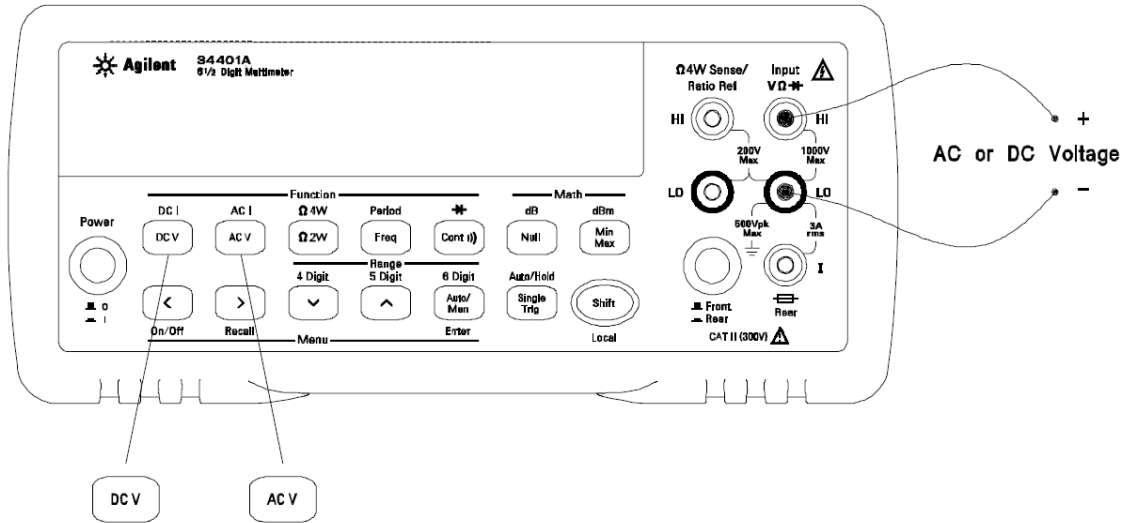
If you accidentally press Shift, just press it again to turn off the **Shift** annunciator.

To Measure Voltage

Ranges: 100 mV, 1 V, 10 V, 100 V, 1000 V (750 Vac)

Maximum resolution: 100 nV (on 100 mV range)

AC technique: true RMS, ac-coupled



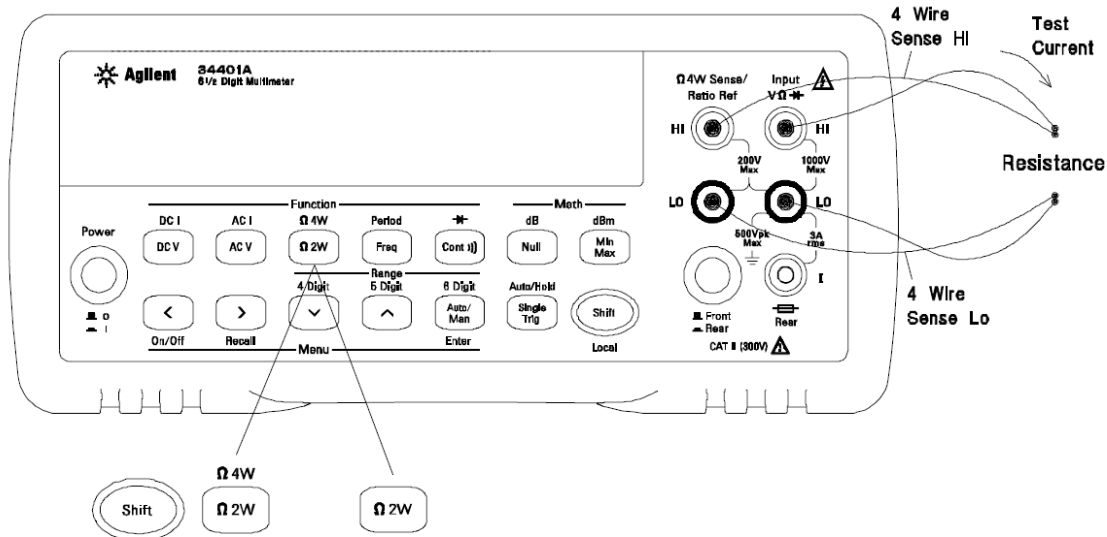
To measure DC voltage; press the **DCV** button on the front panel, connect a red test lead to the **Input HI** terminal and the black test lead to the **Input LO** terminal. Connect the test leads to your circuit. The meter is now displaying the DC voltage.

To measure AC voltage; press the **ACV** button on the front panel, connect a red test lead to the **Input HI** terminal and the black test lead to the **Input LO** terminal. Connect the test leads to your circuit. The meter is now displaying the AC voltage.

To Measure Resistance

Ranges: 100 Ω , 1 k Ω , 10 k Ω , 100 k Ω , 1 M Ω , 10 M Ω , 100 M Ω

Maximum resolution: 100 $\mu\Omega$ (on 100 ohm range)



To measure resistance; press the Ω 2W button on the front panel, connect a red test lead to the **Input HI** terminal and the black test lead to the **Input LO** terminal. Connect the test leads to your circuit or resistor. The meter is now displaying the resistance.

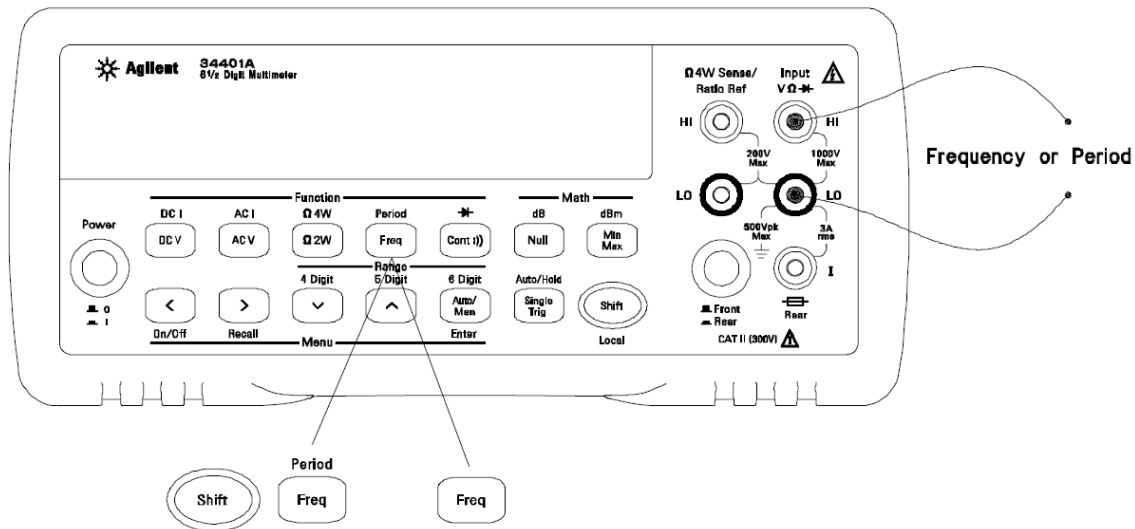
Note: We do not use the Ω 4W option.

To Measure Frequency (or Period)

Measurement band: 3 Hz to 300 kHz (0.33 sec to 3.3 μ sec)

Input signal range: 100 mVac to 750 Vac

Technique: reciprocal counting



To measure frequency; press the **Freq** button on the front panel, connect a red test lead to the **Input HI** terminal and the black test lead to the **Input LO** terminal. Connect the test leads to your circuit. The meter is now displaying the frequency.

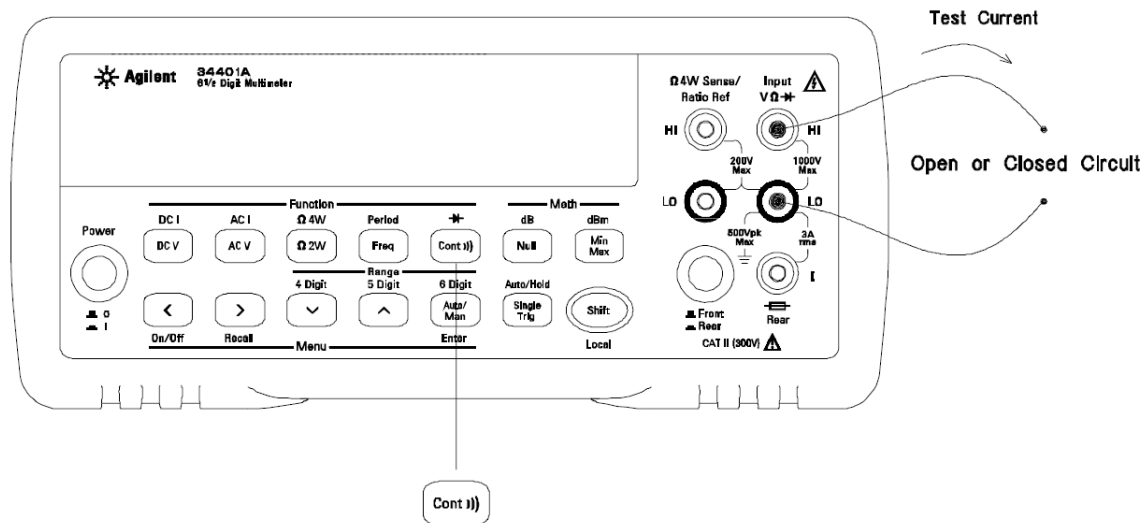
To measure period; press the **shift** button and then the **Freq** (**Period**) button on the front panel, connect a red test lead to the **Input HI** terminal and the black test lead to the **Input LO** terminal. Connect the test leads to your circuit. The meter is now displaying the period.

To Test Continuity

Test current source: 1 mA

Maximum resolution: 0.1 Ω (range is fixed at 1 kohm)

Beeper threshold: 1 Ω to 1000 Ω (beeps below adjustable threshold)



To test continuity; press the **Cont** button on the front panel, connect a red test lead to the **Input HI** terminal and the black test lead to the **Input LO** terminal. Connect the test leads to your circuit. The meter will now display all zero and beep if continuity is present.

