Agilent U1701B Dual Display Handheld Capacitance Meter

Quick Start Guide

The following items are included with your capacitance meter:

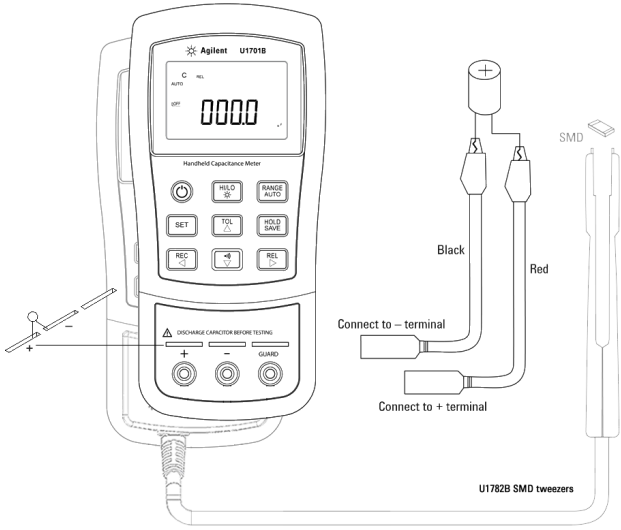
- ✔ Alligator clip leads
- ✔ Printed Quick Start Guide
- ✔ 9 V Alkaline battery
- ✔ Certificate of Calibration

If anything is missing or damaged, please contact the nearest Agilent Sales Office.

For more detailed information, please refer to the *Agilent U1701B Dual Display Handheld Capacitance Meter User's Guide* on Agilent Web site (www.agilent.com/find/handheld-tools).

WARNING **To avoid damage to the device, do not exceed the input limit. Do not apply voltage to input terminals. Discharge the capacitor before testing.**

Capacitance Measurement



Procedure:

1 Press  to power-on the meter.

2 To test for capacitance, keep an open circuit on the test leads and press  to subtract the residual capacitance of the meter and leads.

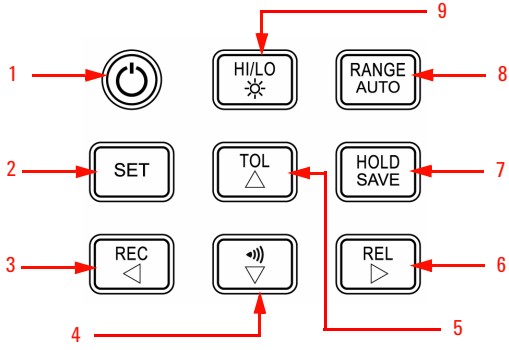
3 Insert the capacitor legs into + and – input terminals respectively. Ensure that the polarity of the capacitor's leg are correct.

4 Remove your hands from capacitor to allow it to be tested.

5 Read the measurement on the display.

CAUTION To avoid possible damage to the meter or the equipment under test, disconnect circuit power and discharge the capacitor before measuring capacitance.

Features and Functions



No.	Keys	Functions
1	Power	To turn ON/OFF the instrument
2	SET	Set high/low limits for compare mode
3	REC	Static recording mode
4		Compare mode
5	TOL	Tolerance mode
6	REL	Relative mode
7	HOLD SAVE	Data hold To store the setting value into the memory
8	RANGE AUTO	Manual range Auto range
9	HI/LO	High/Low limits Backlight display

How to Enter Setup Mode

Press and hold SET and power on the instrument from OFF status.

Release SET when you hear a beep, the instrument will then enter setup mode. These parameters will be remained in the non-volatile memory even after the instrument is turned off. To configure the related parameters on setup mode, ensure that the following procedures are followed:

1 Press ◁ (Left) or ▷ (Right) to select the menu item to be set.

2 Press △ (Up) or ▽ (Down) to change the parameter.

3 Press SET to select the digit to be adjusted, the selected digit will flash.

4 Press and hold HOLD SAVE for more than 1 s to save your setting.

5 Press SET for more than 1 s to exit setup mode.

Features and Functions

Actions	Steps
To power ON or OFF	Press 
To enable data hold function	Press HOLD SAVE
To trigger holding next reading	Press HOLD SAVE momentarily
To exit data hold mode	Press HOLD SAVE for more than 1 s
To enable recording function • The beeper will beep when a new MAX or MIN value has been recorded. • The static recording captures stable values and updates the memory. It will not record values that are overloaded, OL or below 10 count value.	Press REC ◁

Actions	Steps
To cycle through maximum, minimum, average, and present readings • **MAX**, **MIN**, **AVG** or **MAX AVG MIN** annunciator will be turned on respectively to indicate which value is being displayed	Press REC ◁ momentarily
To exit the recording mode	Press REC ◁ for more than 1 s
To enable relative function • Relative function shows the difference between the measured value and the offset reference value. The display may show a non-zero value due to the presence of test leads. Use the relative function to nullify the residual. • Relative function can operate in both auto and manual ranging mode but the function cannot be set when an overload value exists. • **REL** annunciator will be displayed.	Press REL ▷
To renew the relative value	Press REL ▷ again
To exit relative mode	Press REL ▷ for more than 1 s
To select manual range and to turn off the **AUTO** annunciator	Press RANGE AUTO
To step up a range at a time	Press RANGE AUTO again
To select auto-range • In auto range mode, the **AUTO** annunciator is displayed and the instrument will select an appropriate range for resolution if the reading is greater than the maximum available range. **OL** will be displayed. • The instrument will select a lower range when the reading is less than 9% of full scale.	Press RANGE AUTO for more than 1 s
To enable the tolerance mode and to set the display value as a standard reference • **TOL** annunciator will be displayed. • The tolerance will be displayed on the secondary display. • The instrument range will be locked.	Press TOL △

Actions	Steps
To exit tolerance mode	Press TOL △ and hold for more than 1 s

To cycle through 1%, 5%, 10% and 20% tolerance
• ◂)) will be indicated.
• Beeper will beep once if the test value is within the selected tolerance. If the test value is out of the tolerance, the beeper will beep three times.
• This mode cannot be enabled under the following conditions:
  • After setting the recording mode
  • After setting the compare mode
  • Display showing either **OL** or below 10 counts
	Press TOL △ momentarily

To enable compare mode • Measuring range will be locked • ◂)) will be displayed and the secondary display will indicate **C # #**, meaning which set has been used for compare mode. The two right digits indicate current compare set. The # # range from 01 to 25. • The primary display shows the present measurement. In this state, it is ready for testing. • If the reading is beyond the high limit, ▲ will be indicated. ▼ will be indicated if the reading is out of the low limit. The beeper will beep three times and the secondary display will indicate **nGo**. • If the reading is within the high and low limits, the beeper will beep once, and the secondary display will indicate **Go**. After three seconds or when the reading is lower than 10 counts, the instrument will return to its ready state. • The secondary display will indicate **C01** to **C25** according to the comparison record that has been selected.	Press TOL △
To save comparison set for next entry	Press HOLD SAVE and hold for more than 1 s
To exit compare mode	Press ◂)) ▽

Actions	Steps
To view the High/Low limit value to be used as compare mode	Press HI/LO momentarily
To cycle through HI limit, LO limit, and present values on the primary display • The secondary display showed as **H # #**, **L # #** and **C # #** respectively. • After three seconds without pressing this button again, it will return to the present value display.	Press HI/LO
To toggle HI and LO limits for adjustment	Press HI/LO momentarily
To enter HI/LO limits setting mode • The secondary display will flash **H01** and the primary display will indicate the value of HI limit. • The following buttons will be used for this setting mode:	Press SET for more than 1 s
a To select which digit to be adjusted	Press ◁ (Left) or ▷ (Right)
b To increase or decrease the current digit's value	Press △ (Up) or ▽ (Down)
c To select High or Low limit to be set.	Press HI/LO
d To store the setting value in the memory. The beeper will beep twice if the selected value has been stored. If the current setting do not meet the rule that the high limit must be equal or greater than the low limit, the beeper will beep three times.	Press HOLD SAVE for more than 1 s
e To select next compare setting. To cycle through L01 (or H01) to L25 (or H25), then return to L01 (H01) setting.	Press SET momentarily
To exit the HI/LO limit setting mode	Press SET for more than 1 s
To toggle backlight ON/OFF Backlight turns off automatically after setting period by setup mode.	Press HI/LO and hold for more than 1 s

CAUTION Degradation of some product specifications can occur in the presence of ambient electromagnetic (EM) fields and noise that affects the product's power line or I/O cables. The product self-recovers and operates to all specifications when:

- the source of the ambient EM field and noise is removed,
- the product is protected from the ambient EM field, or
- the product cabling is shielded from the ambient EM noise.

Safety Notices

CAUTION A **CAUTION** notice denotes a hazard. It calls attention to an operating procedure, practice, or the like that, if not correctly performed or adhered to, could result in damage to the product or loss of important data. Do not proceed beyond a **CAUTION** notice until the indicated conditions are fully understood and met.

WARNING **A WARNING notice denotes a hazard. It calls attention to an operating procedure, practice, or the like that, if not correctly performed or adhered to, could result in personal injury or death. Do not proceed beyond a WARNING notice until the indicated conditions are fully understood and met.**

Safety Information

The Agilent U1701B is safety-certified in compliance with the following safety and EMC requirements:

- IEC 61010-1:2001/EN 61010-1:2001 (2nd Edition)
- CISPR 11:2003+A1:2004
- IEC 61000-4-2:1995+A1:1998 +A2:2000
- IEC 61000-4-3:2006
- IEC 61000-4-4:2004
- IEC 61000-4-5:2005
- IEC 61000-4-6:2003+A1:2004+A2:2006
- IEC 61000-4-11:2004
- Canada: ICES-001:2004
- Australia/New Zealand: AS/NZS CISPR11:2004

Safety Symbols

	Earth (ground) terminal
	Equipment protected throughout by double insulation or reinforced insulation
	Caution, risk of electric shock
	Caution, risk of danger (refer to the instrument manual for specific Warning or Caution information)

For further safety information details, refer to the *Agilent U1701B Dual Display Handheld Capacitance Meter User's Guide.*

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