



# Agilent U1701A/U1701B Handheld Capacitance Meter

## Data Sheet



Agilent handheld capacitance meters expand Agilent's portfolio of handheld tools into electronics assembly and passive components troubleshooting. Agilent now offers its latest handheld capacitance meter, the U1701B, in all-new orange, providing capabilities and functionalities that are equivalent to the U1701A.

### Features

- 11,000 counts resolution
- Dual display with backlight
- Wide range: 0.1 pF to 199.99 mF
- Compare mode with 25 sets of High/Low limit settings
- Tolerance mode: 1%, 5%, 10% and 20%
- Relative mode
- Hold and Min/Max/Average recordings
- Data logging to PC with optional IR-to-USB cable

### Efficient capacitor sorting

With up to 25 sets of High/Low limits that you can store and choose from in compare mode, the U1701A/U1701B lets you breeze through capacitor sorting without the need to set and reset the standard reference for different capacitors-under-test.

The U1701A/U1701B also comes with other handy functions, including tolerance and relative modes, Hold, Min/Max/Average recordings, and PC data logging.

### Uncompromised quality and reliability

The handheld capacitance meter comes in a robust overmold and tested to stringent industrial standards. Each capacitance meter is also sealed with a three-year warranty and the assurance that you can test your components with confidence.



**Figure 1:** Automate the recording of continuous readings when you hook the U1701A/U1701B to a PC



**Agilent Technologies**

## Take a closer look



Figure 2: U1701B front view

## U1701A/U1701B Electrical Specifications

Accuracy is given as  $\pm$  (% of output + counts of least significant digit) at 23 °C  $\pm$  5 °C, with relative humidity less than 80% R.H.


For example, 1%  $\pm$  10 = 1% of reading + 10 counts of least significant digit

### Capacitance

Range	Resolution	Accuracy*	Measuring rate as full scale (approx.)
1000.0 pF	0.1 pF	1% + 10	5 times/s
10.000 nF	0.001 nF	1% + 5	5 times/s
100.00 nF	0.01 nF	0.5% + 3	5 times/s
1000.0 nF	0.1 nF		5 times/s
10.000 $\mu$ F	0.001 $\mu$ F		5 times/s
100.00 $\mu$ F	0.01 $\mu$ F		5 times/s
1000.0 $\mu$ F	0.1 $\mu$ F		0.86 times/s
10.000 mF	0.001 mF	1% + 5	0.13 times/s
199.99 mF	0.01 mF	2% + 5	0.006 times/s

\*Accuracy is specified to measure film capacitor or better. Use Relative mode to zero residual.

## General Specifications

Parameter	U1701A/U1701B
<b>Display</b>	4½-digit liquid crystal display (LCD) with a maximum resolution of 11,000 counts and automatic polarity indication
<b>Power supply</b>	<ul style="list-style-type: none"> <li>• 9 V Alkaline battery (ANSI/NEDA 1604A or IEC 6LR61)</li> <li>• AC power adapter and cord available as options</li> </ul>
<b>Power consumption</b>	5.6 mA (on battery operation)
<b>Battery life</b>	~80 hours without backlight and based on new alkaline
<b>Operating temperature</b>	Full accuracy at 0 °C to 50 °C
<b>Operating humidity</b>	Up to 80% relative humidity (R.H.) for temperatures up to 31 °C, decreasing linearly to 50% R.H. at 50 °C
<b>Altitude</b>	0 to 2000 m
<b>Storage temperature</b>	-20 °C to 60 °C
<b>Storage humidity</b>	0 to 80% R.H. non-condensing
<b>Temperature coefficient</b>	0.1 x (specified accuracy)/ °C (from 0 °C to 18 °C or 28 °C to 50 °C)
<b>Low battery indicator</b>	 will appear when the voltage drops below ~ 6.0 V
<b>Weight</b>	320 g
<b>Dimensions (H x W x D)</b>	184 mm x 87 mm x 41 mm
<b>Safety and EMC compliance</b>	IEC 61010-1:2001/EN 61010-1:2001 (2 <sup>nd</sup> Edition) Pollution Degree 2, IEC 61326-2-1:2005/EN 61326-2-1:2006, ICES-001:2004, AS/NZS CISPR11:2004
<b>Calibration</b>	One-year calibration cycle recommended
<b>Warranty</b>	<ul style="list-style-type: none"> <li>• 3 years for U1701A/U1701B</li> <li>• 3 months for standard shipped accessories</li> </ul>

# Ordering Information

## Standard shipped accessories



### Standard U1701A/U1701B ordering includes:

- Quick Start Guide
- Certificate of Calibration (CoC)
- Alligator clip leads
- 9 V Alkaline battery

### Option U1701A-SMD ordering includes (For U1701A only) :

SMD tweezer and soft carrying case in addition to the standard shipped items

## Recommended accessories



**U1174A** Soft carrying case



**U5481A** IR-to-USB cable



**U1782A** SMD tweezers



**U1780A** Power adapter and cord (according to country)



**U1781A** Alligator clip leads



### Agilent Email Updates

[www.agilent.com/find/emailupdates](http://www.agilent.com/find/emailupdates)  
Get the latest information on the products and applications you select.



### Agilent Direct

[www.agilent.com/find/agilentdirect](http://www.agilent.com/find/agilentdirect)  
Quickly choose and use your test equipment solutions with confidence.

### Remove all doubt

Our repair and calibration services will get your equipment back to you, performing like new, when promised. You will get full value out of your Agilent equipment throughout its lifetime. Your equipment will be serviced by Agilent-trained technicians using the latest factory calibration procedures, automated repair diagnostics and genuine parts. You will always have the utmost confidence in your measurements.

Agilent offers a wide range of additional expert test and measurement services for your equipment, including initial start-up assistance onsite education and training, as well as design, system integration, and project management.

For more information on repair and calibration services, go to

[www.agilent.com/find/removealldoubt](http://www.agilent.com/find/removealldoubt)

Product specifications and descriptions in this document subject to change without notice.

[www.agilent.com](http://www.agilent.com)  
[www.agilent.com/find/handheldlcr](http://www.agilent.com/find/handheldlcr)

For more information on Agilent Technologies' products, applications or services, please contact your local Agilent office. The complete list is available at:

[www.agilent.com/find/contactus](http://www.agilent.com/find/contactus)

#### Phone or Fax Americas

Canada	(877) 894-4414
Latin America	305 269 7500
United States	(800) 829-4444

#### Asia Pacific

Australia	1 800 629 485
China	800 810 0189
Hong Kong	800 938 693
India	1 800 112 929
Japan	0120 (421) 345
Korea	080 769 0800
Malaysia	1 800 888 848
Singapore	1 800 375 8100
Taiwan	0800 047 866
Thailand	1 800 226 008

#### Europe & Middle East

Austria	01 36027 71571
Belgium	32 (0) 2 404 93 40
Denmark	45 70 13 15 15
Finland	358 (0) 10 855 2100
France	0825 010 700* *0.125€/minute
Germany	07031 464 6333
Ireland	1890 924 204
Israel	972-3-9288-504/544
Italy	39 02 92 60 8484
Netherlands	31 (0) 20 547 2111
Spain	34 (91) 631 3300
Sweden	0200-88 22 55
Switzerland	0800 80 53 53
United Kingdom	44 (0) 118 9276201

Other European Countries:

[www.agilent.com/find/contactus](http://www.agilent.com/find/contactus)

Revised: October 6, 2008

© Agilent Technologies, Inc. 2009  
Printed in USA, November 24, 2009  
5990-3525EN



**Agilent Technologies**