



Agilent 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 handheld capacitance meter, the U1701B, providing extra capabilities and functionalities.



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 U1701B lets you breeze through capacitor sorting without the need to set and reset the standard reference for different capacitors-under-test.

The 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 U1701B to a PC



Agilent Technologies

Take a Closer Look



Figure 2. U1701B front view

U1701B Electrical Specifications

Accuracy is given as \pm (% of output + counts of least significant digit) at $23\text{ }^{\circ}\text{C} \pm 5\text{ }^{\circ}\text{C}$, 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 (approximately)
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	0.5% + 3	5 times/s
10.000 μ F	0.001 μ F	0.5% + 3	5 times/s
100.00 μ F	0.01 μ F	0.5% + 3	5 times/s
1000.0 μ F	0.1 μ F	0.5% + 3	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	U1701B
Display	4½-digit liquid crystal display (LCD) with a maximum resolution of 11,000 counts and automatic polarity indication
Power supply	<ul style="list-style-type: none"> 9 V Alkaline battery (ANSI/NEDA 1604A or IEC 6LR61) AC power adapter and cord available as options
Power consumption	5.6 mA (on battery operation)
Battery life	~80 hours without backlight and based on new alkaline
Operating temperature	Full accuracy at 0 °C to 50 °C
Operating humidity	Up to 80% relative humidity (R.H.) for temperatures up to 31 °C, decreasing linearly to 50% R.H. at 50 °C
Altitude	0 to 2000 m
Storage temperature	-20 °C to 60 °C
Storage humidity	0 to 80% R.H. non-condensing
Temperature coefficient	0.1 x (specified accuracy)/ °C (from 0 °C to 18 °C or 28 °C to 50 °C)
Low battery indicator	⊕⊖ will appear when the voltage drops below ~ 6.0 V
Weight	320 g
Dimensions (H x W x D)	184 mm x 87 mm x 41 mm
Safety and EMC compliance	IEC 61010-1:2001/EN 61010-1:2001 (2nd Edition) Pollution Degree 2, IEC 61326-2-1:2005/EN 61326-2-1:2006, ICES-001:2004, AS/NZS CISPR11:2004
Calibration	One-year calibration cycle recommended
Warranty	<ul style="list-style-type: none"> 3 years 3 months for standard shipped accessories

Ordering Information



Standard shipped items

Standard U1701B ordering includes:

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

Recommended accessories

U1174A



Soft carrying case

U5481A



IR-to-USB cable

U1782A



SMB tweezers

U1780A



Power adaptor and cord (according to country)

U1781A



Alligator clip leads



Agilent Email Updates

www.agilent.com/find/emailupdates

Get the latest information on the products and applications you select.



www.axistandard.org

AdvancedTCA® Extensions for Instrumentation and Test (AXIe) is an open standard that extends the AdvancedTCA® for general purpose and semiconductor test. Agilent is a founding member of the AXIe consortium.



www.lxistandard.org

LAN eXtensions for Instruments puts the power of Ethernet and the Web inside your test systems. Agilent is a founding member of the LXI consortium.



<http://www.pxisa.org>

PCI eXtensions for Instrumentation (PXI) modular instrumentation delivers a rugged, PC-based high-performance measurement and automation system.

Agilent Channel Partners

www.agilent.com/find/channelpartners

Get the best of both worlds: Agilent's measurement expertise and product breadth, combined with channel partner convenience.



Agilent Advantage Services is committed to your success throughout your equipment's lifetime. We share measurement and service expertise to help you create the products that change our world. To keep you competitive, we continually invest in tools and processes that speed up calibration and repair, reduce your cost of ownership, and move us ahead of your development curve.

www.agilent.com/find/advantageservices



www.agilent.com/quality

www.agilent.com

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

Americas

Canada	(877) 894 4414
Brazil	(11) 4197 3500
Mexico	01800 5064 800
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
Other AP Countries	(65) 375 8100

Europe & Middle East

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	49 (0) 7031 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
United Kingdom	44 (0) 118 9276201

For other unlisted Countries:

www.agilent.com/find/contactus

Revised: October 14, 2010

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

© Agilent Technologies, Inc. 2009, 2011
Printed in USA, June 7, 2011
5990-3525EN



Agilent Technologies