



Agilent U1701A/U1701B Handheld Capacitance Meter

Data Sheet

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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.



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.

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



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



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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 μ F	0.001 μ F		5 times/s
100.00 μ F	0.01 μ F		5 times/s
1000.0 μ F	0.1 μ 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
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 (2 nd 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 for U1701A/U1701B • 3 months for standard shipped accessories

Ordering Information

Standard shipped accessories



U1701A

U1701B

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 tweezer



U1780A Power adapter and cord (according to country)



U1781A Alligator clip leads

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