

Agilent U1701A Handheld Capacitance Meter

Datasheet



Agilent U1701A handheld capacitance meter expands Agilent's portfolio of handheld tools into electronics assembly and passive components troubleshooting.

Features and Benefits

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

The U1701A 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 U1701A comes in a robust overmold and tested to stringent industrial standards. Each U1701A is also sealed with a three-year warranty and the assurance that you can test your components with confidence.



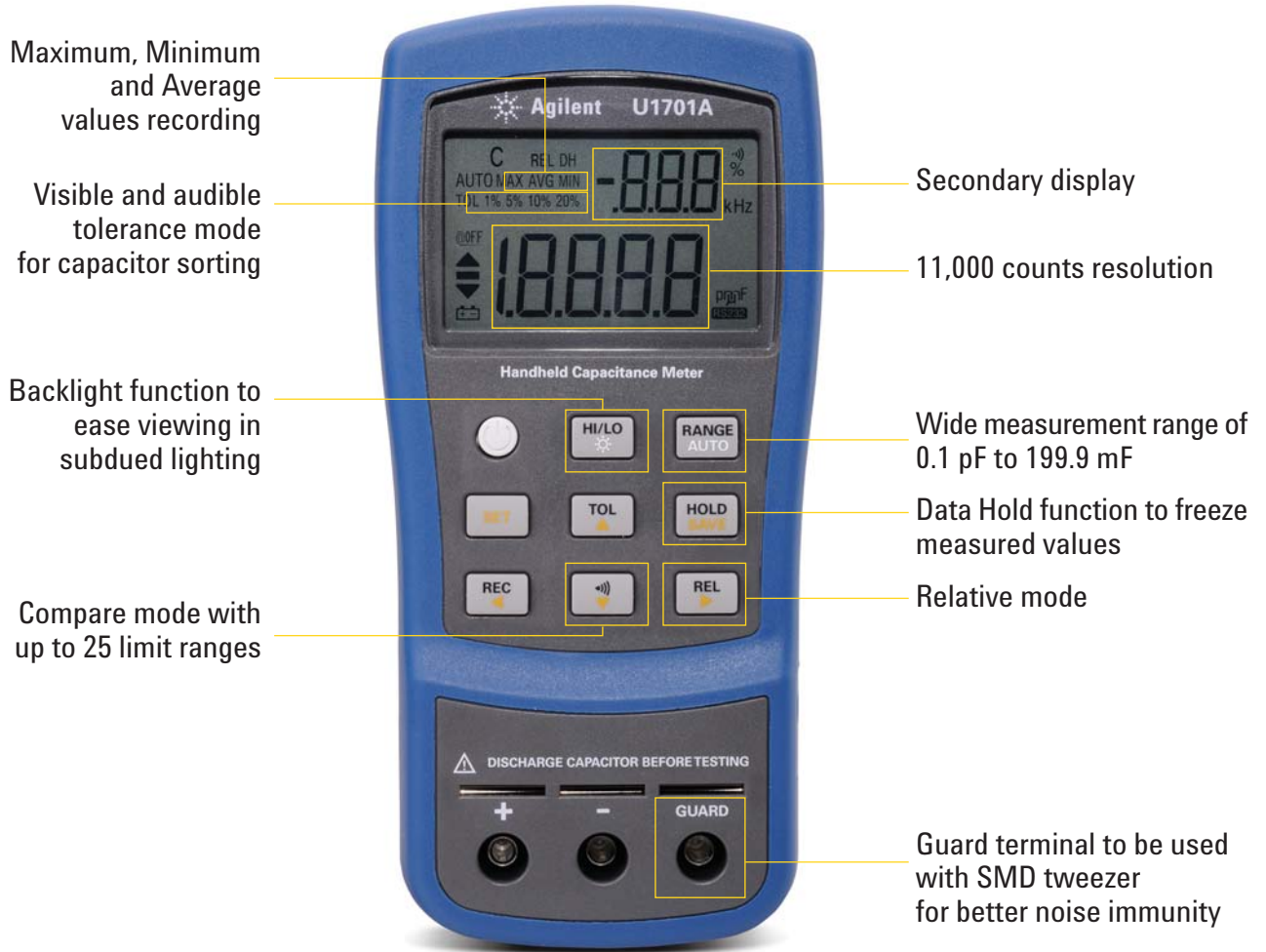
Figure 1: Automate recording of continuous readings when you hook the U1701A to a PC



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Agilent U1701A Handheld Capacitance Meter

Take a closer look



U1701A 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	0.1 mF	2% +5	0.006 times/s

*The accuracy is specified to measure film capacitor or better, and use Relative mode to zero residual first

General Specifications

Parameter	U1701A
Power Supply	Single standard 9 V battery (Alkaline) (Power adaptor is available as optional accessories)
Display	4 ½-digit liquid crystal display (LCD) with maximum reading of 11,000 counts and automatic polarity indication
Function	<ul style="list-style-type: none"> • Capacitance measurement by DC charge and discharge method • Visible and audible Tolerance mode assists you to sort the capacitor • Min/Max/Average, Data Hold with Manual or Auto Trigger and Relative modes • Comparison mode with 25 sets of HI/LO limits can be selected • backlight display for easy reading in the dark • One-year calibration cycle suggested
Measuring rate	~5 times/s for capacitance <100 μ F (Typical)
Battery type	Alkaline: ANSI/NEDA: 1604A / IEC: 6LR61
Power consumption	5.6 mA (Battery operation)
Battery life	~80 hours without backlight based on new alkaline
Operating temperature	0 °C to 50 °C
Storage temperature	-20 °C to 60 °C
Storage humidity	0 – 80% R.H. non condensing
Relative Humidity	(R.H.) 80% R.H.
Temperature coefficient	0.1 * (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
Dimension	(W x L x H) 87 mm x 184 mm x 41 mm
Safety	Designed in compliance with IEC 61010-1 for Pollution Degree 2
Warranty	3 years

Each unit is shipped with:



- Quick Start Guide
- User's and Service Guide
(included in Product Reference CD)
- Certificate of Calibration (CoC)
- Alligator clip leads
- Data logging software
(included in Product Reference CD)
- 9 V Alkaline battery

Optional accessories:



Soft carrying case



IR-to-USB cable



SMD tweezer



Power adapter
(Power cord included based on country)

Option-SMD : SMD tweezer and soft carrying case bundling with standard shipped items





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

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