

Features

- Basic measurement accuracy: 0.1%
- Test signal frequency up to 100kHz
- Measurement speed up to 10meas/sec
- Large character display with bright white backlight
- Ultra-low power consumption, battery-powered for 24 hours of continuous used
- Automatic identification function(Ai)
- Constant output impedance: 100 Ohm
- Percentage display and 4-tolerance comparator: 1%,5%, 10% and 20%
- Automatic Open/Short correction detection
- Data hold, Max/Min/Average recording
- Utility function configuration and current setup recovery after power-off
- Standard Mini-Usb interface, SCPI compatible



U2822/U288A/U288C



Brief Introduction

With its advanced impedance test techniques, Eucoil has launched U822 series handheld LCR meters which possesses the most powerful functions in this industry and outstanding performance beyond bench LCR meters and is the achievement of Eucoil after years of efforts and research on passive-component testing field.

U822 Series adopt the ultra-low dissipation design and high density SMD assembly techniques and can simultaneously display primary and secondary parameters by the use of backlit LCD display. The dual-color shells are gorgeously once shaped; functions are easy to operate. Gorgeously once shaped dual-color shells and easy operating functions are the characteristics of the meter. The test frequency is up to 100 KHz, the readings of primary parameter 40,000 counts and the resolution of dissipation factor 0.0,001. Accurate and convenient measurements of passive-components can be achieved in all occasions for a long time.

Small size for easy carrying: Measure LCR parameters anytime and anywhere

With its convenience of handheld measurement, U822 series can perform the measurement of basic LCR parameters easier and faster and simultaneously meet the requirements of fast and convenient measurements in many occasions such as: field maintenance test, external carrying test, fixation point on production line or mobile checkout, warehouse in-and-out checkout of electronic components, real-time spot or batch inspection and especially in field measurements. While its advantage of cost performance over bench meters makes it possible for most related testers to configure it.

Superior Performance: Identical test function and performance with bench meter

U822 series is the achievement of Eucoil's decades of technical accumulation on impedance test field. The measurement frequency is up to 100kHz(U822C); the basic measurement accuracy is 0.1%; 40,000 counts on primary display is the highest in the identical handheld LCR meter; D/ Q counts resolution on secondary parameter is 0.0,001, which can be applied to the accurate dissipation measurement and makes it possible for the handheld LCR meter to measure low dissipation and ESR capacitors such as metallization, mica, NPO(COG)ceramics. U822 support fast test response, up to 10 times per second, similar to the bench meter, which changes the history of slow and blunt testing speed of handheld LCR Meters.

Constant source internal resistance: No worry for differences of component test result

For traditional handheld LCR meters and some bench LCR meters, internal resistance of signal source changes with testing range. When measuring some components with high dependence on electric level, different devices obtain different results, for instance, impedance values of inductive components vary with test current; capacitance of ceramic capacitors with high Q values changes with test voltage and the change of internal resistance of signal source will cause the inconformity of testing result. U822 series first achieves the use of 100 Ohm constant source internal resistance on handheld LCR meters, when all popular bench LCR Meter adopt 100Ohm signal source internal resistance. Whereupon, the test results of common or level sensitive elements are reliable and comparable. (Refer to Test Signal Level Correlation on Impedance Measurement Basis)

Flexible Port Configuration: Combination of low-cost and high-accuracy as two test port configurations selectable

U822 series achieves configurations of 5-terminal and 3-terminal port (patent technology). There are two configurations available: inexpensive banana plug and crocodile clip used in simple measurement and 5-terminal test rabbit, four terminals or SMD 4-terminal testing tweezers used in high-accuracy 4-terminal Kelvin measurement on lead components or SMD components.

Auto LCR Select: Easy use for non-expert

There are various test parameters and equivalent modes of series-parallel connection in U822 series, which is extraordinarily suitable for professional measurement. Nevertheless, most non-experts are hard to identify inductor, resistor and capacitor in that most RC-components are almost identical in appearance. By using Auto LCR, users can identify tested components easily and obtain measurement results immediately. All you need do is press the key of LCR AUTO, then according to the properties of tested components, the meter will automatically select appropriate group test parameter and equivalent modes of series-parallel connection. For operators, it is quite valuable for the inspection of various scrambled components, the classification of SMD mixed components, the feeding of components or the debugging before warehousing.

USB Communication: Fast realization of mobile data acquisition

Mini-USB interface is the standard configuration of U822 series. Like cell phones and digital products, U822 series can connect to desk or portable computer rapidly by USB interface and set up acquisition platform of testing data anytime and anywhere. Automatic sending function of testing data and even interactive control by SCPI are available on U822 series. On our website (www.eucoil.com.cn), you can download PC communication software freely. When connected to PC, U822 series is simulated to serial equipment. To realize device control, data acquisition and statistic analysis, all you need do is master the use of PC serial port.



Specifications

Function				
Measurement Parameters	Primary Parameters: L / C / R / Z Second Parameters: D / Q / θ / ESR			
Equivalent Circuits	Serial, Parallel			
Auto LCR Function	Manual/Auto			
Ranging Mode	Auto			
Test Terminals	2-terminal, 4-terminal, 5-terminal			
Measurement Speed	10meas/sec (Fast) , 5meas/sec (Medium) , 2meas/sec (Slow)			
Correction	Short, Open			
Tolerance Mode	1%, 5%, 10%, 20%			
Input protection fuse	0.1A / 250V			
Interface	Mini-USB(virtual serial port)			
Test Signal				
Signal Frequency	U822 100Hz, 120Hz, 1kHz (120Hz actual frequency 120.048Hz, be the same as below)			
	U822A 100Hz, 120Hz, 1kHz, 10kHz			
	U822C 100Hz, 120Hz, 1kHz, 10kHz, 100kHz			
Test Signal Level	0.6Vrms			
Output Impedance	100 Ω			
Display				
Display	LCD primary-secondary dual display			
Backlight	Battery supply: when backlight is on, luminance is reduced by half 15s later and automatically turned off 30s later Powered by adapter: backlight is on until manually turned off			
Readings	Max. counts of primary parameter:40,000; D / Q / θ Min. resolution of Secondary parameter:0.0001			
Basic Accuracy	0.1%			
Measurement Display Range	L	0.001uH – 1000.0 H		
	C	0.001pF – 20.000mF		
	R/Z	0.0001 Ω – 10.000M Ω		
	ESR	0.0000 Ω – 999.9 Ω , resolution: 0.0001 Ω		
	D	0.0000 – 9.999, resolution: 0.0001		
	Q	0.0000 – 9999, resolution: 0.0001		
	θ	-179.9° – 179.9° , resolution: 0.01°		
Power Supply				
Battery Model	7.2V Ni-MH 600mAH rechargeable battery			
AC Adapter	Input: 220V(1 \pm 10%), 50Hz(1 \pm 5%); Output: 9V DC			
Operating Current	Max.: 28 mA, Typical: 25mA (1kHz ,100 Ω load)			
Standby (Power off) Current	Max.: 2 μ A			
Battery Life	24 hours (Typical), based on backlight off and new fully charged Ni-MH battery			
Charge Time and Current	Continuous charge time: Max. 80min Charging current: Max. 150mA			
Auto Power Off	5min, 15min, 30min, 60min, OFF available			
Battery Capacity indicate	Real-time display on LCD			
General				
Operation Condition	Temperature	0°C -- 40°C		
	Relative Humidity	\leq 90% R.H.		
Weight	460g			
Dimensions (H x W x D)	192mm x 93mm x 44mm			
Safety and EMC compliance	IEC 61010-1:2001; IEC 61326-2-1:2005			
Ordering Information				
Model		U822	U822A	U822C
Instrument Accessories				
Operation Manual		√	√	√
U26031	7.2V NI-MH rechargeable battery	√	√	√
U26028	AC adapter	√	√	√
U26026	Banana plugs-crocodile clip test leads	√	x	x
U26010	Short-circuit plate	√	√	√
U26027	4-terminal Kelvin test leads	Optional	√	√
U26029	SMD 4-terminal Kelvin test Tweezers	Optional	Optional	√
U26030	Mini-USB communication cable	Optional	Optional	Optional
	PC communication control software	Download from www.eucol.com.cn		

