

Atlas LCR45

LCR meter with LCR impedance measurement

Model: LCR45



electronic design ltd

PRODUCT BRIEF

Designed and made in the UK

The LCR45 builds on the success of the LCR40 Passive Component Analyser. With a new micro, including 12 bit ADCs and new software written from the ground up, the LCR45 is more than just evolution.

This new instrument incorporates advanced maths, based on Complex Impedance analysis. This allows for enhanced component value measurement as well as a comprehensive and detailed impedance display.

Auto and Manual Modes

Now you have the benefit of speed and simplicity with the fully automatic mode combined with the flexibility of manual modes.

The LCR45 can automatically determine the component type being tested, alternatively, you can select the component type manually. This is particularly useful for components that may have more unusual characteristics. The test frequency can be left in automatic mode, yielding the best possible measurement resolution. For some components you may want to specify the test frequency yourself.

Flexible Measurement Display

The detailed measurements can be presented in a variety of ways. The first measurement display is the summary of the component type and its value(s). The second screen is the full complex impedance value (shown as a complex number). Finally, the impedance can be seen in polar form, of magnitude and phase.



Continuous measurements with hold function

Component Summary

Inductor \square 23.6Ω%
L=123.4μH \square 200kΩ

Complex Impedance

Impedance 200kΩ
+25.6 +j155.1Ω

Magnitude and Phase

Mag/Phase 200kΩ
157.2Ω +80.6°

Main Features

- Supplied with gold plated removable hook probes.
- Fluid measurements with hold function.
- Automatic or manual component type.
- Automatic or manual test frequency, DC, 1kHz, 15kHz or 200kHz.
- Enhanced measurement resolution: 0.2μH, 0.2pF and 0.2 Ohms.
- Easy menu system for user settings.
- Enhanced compensation for component parasitics and losses (such as core losses etc).
- Automatic or manual power-off.

Please note that specifications of our products are subject to change without notice. E&OE.

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Parameter	Min	Typ	Max
Resistance	range	0Ω	2MΩ
	resolution	0.1Ω	0.2Ω
	accuracy	Typically ±1.0% ±0.6Ω	
Capacitance	range	0pF	10000μF
	resolution	0.1pF	0.2pF
	accuracy	Typically ±1.5% ±0.6pF	
Inductance	range	0μH	2H
	resolution	0.1μH	0.2μH
	accuracy	Typically ±1.5% ±0.6μH	
Passive Component Impedance	Re & Im	Typically ±1.5% ±10 LSD	
	Magnitude	Typically ±1.5% ±10 LSD	
	Phase	Typically ±5°	
Measurement Sample Rate	0.5Hz	1.5Hz	2Hz
Peak test voltage (across O/C)	-1.05V		+1.05V
Peak test current (thru S/C)	-3.25mA		+3.25mA
Test frequency accuracy	1kHz	Typically ±0.5%	
	14.9254kHz		
	200kHz		
Sine purity	Typically -60dB 3 rd harmonic		
Operating temperature range	15°C		35°C
Battery operating voltage	8.5V		13V
Battery life	Typically ~700 operations		

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