

# Atlas LCR45

passive component impedance meter

**PEAK**  
electronic design ltd

Model: LCR45

**PRELIMINARY PRODUCT DATA**

## Advanced Maths

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 23.6Ω%
L=123.4μH 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 | 0.1 Ω                                    | 0.2Ω  |          |
|                                | accuracy   | Typically ±1.0% ±0.6 Ω                   |       |          |
| Capacitance                    | range      | 0pF                                      |       | 10,000μF |
|                                | resolution | 0.1pF                                    | 0.2pF |          |
|                                | accuracy   | Typically ±1.5% ±0.6pF                   |       |          |
| Inductance                     | range      | 0μH                                      |       | 10H      |
|                                | 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 <sup>rd</sup> harmonic |       |          |
| Operating temperature range    |            | 10°C                                     |       | 40°C     |
| Battery operating voltage      |            | 8.5V                                     |       | 13V      |

### Peak Electronic Design Limited

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