

## LCR Meters

### 4310R 4320R 4350R 43100R



- Measurements from 20 Hz to 1 MHz (43100)
- 0.1% basic accuracy
- <20 ms measurement time
- Parameters Z  $\theta$  R<sub>ac</sub> C D L Q B G X Y R<sub>dc</sub>
- Display four parameters and two tests at once
- Drive level from 10 mV to 2 V<sub>rms</sub>
- RS232, GPIB, USB & LAN Interfaces
- +2 V internal /  $\pm 40$  Vdc external bias
- Small size & light weight

The 4300 series is the entry level range of Wayne Kerr LCR Meters. They provide a wide range of features and offer high performance and very competitive prices

#### Frequency

Model	Frequency Range
4310R	20 Hz to 100 kHz
4320R	20 Hz to 200 kHz
4350R	20 Hz to 500 kHz
43100R	20 Hz to 1 MHz

#### Frequency Step Size

Frequency	Step Size
20 Hz to 1 kHz	5 Hz
1 kHz to 10kHz	50 Hz
10 kHz to 100kHz	500 Hz
100 kHz to 1 MHz	5 kHz

#### AC Drive Level

Voltage (into open circuit): 10 mV to 2 V<sub>rms</sub>  
 Voltage step size: 10 mV (200 steps)  
 Signal source impedance: 100  $\Omega$

#### DC Drive Level

1 V or 2 V

#### DC Bias Voltage

Internal: 2 V  
 External:  $\pm 40$  V

#### Basic Accuracy

AC: 0.1%

DC: 0.2%

Varies with speed, frequency, drive level and impedance.

#### Measurement Parameters

Impedance (Z) Phase Angle ( $\theta$ )  
 Capacitance (C) Dissipation Factor /  $\tan \delta$  (D)  
 Inductance (L) Quality Factor (Q)  
 AC Resistance (R) Reactance (X)  
 DC Resistance (R<sub>dc</sub>) Admittance (Y)  
 Susceptance (B) Conductance (G)

#### Series/Parallel Equivalent Circuit

Any combination of AC parameters

#### Range of Readings

Parameter	Display Measurement Range
Z, R, X	10.000 00 $\mu\Omega$ to > 100.000 G $\Omega$
Y, B, G	1.000 00 pS to > 10.000 0 kS
L	100.000 pH to > 100.000 MH
C	10.000 0 fF to > 1.000 00 F
D, Q	0.000 01 to 99,999.9
A	-180.000° to 180.000°
R <sub>dc</sub>	0.100 0 m $\Omega$ to > 10.000 G $\Omega$

### Measurement Speeds

Four selectable measurement speeds for all functions. Fastest measurement time is less than 20 ms, depending on frequency and set up conditions.

### Test Mode

One test or two tests can be triggered automatically. Measurement parameters, frequency, and drive level can be changed between Test 1 and Test 2.

### Test Limits

Limits can be set for all measurements in one or two test mode. Results of limit checks are displayed on screen. PASS/FAIL signal is available on Scaleizer port on rear panel.

### Save and Recall

Up to 20 measurement set ups can be saved with user-defined names to internal memory and later recalled.

### External Control

GPIO, USB, LAN and RS232.

### Binning (Option)

User programmable PASS and FAIL bins indicated by signals available on the rear panel. /B1 provides non-isolated signals. /B2 provides isolated signals.

### Scaleizer (Option)

Provides relay controlled signals available on the rear panel indicating PASS/FAIL decisions based on user-defined limits. 2 versions available (/S1 and /S2).

### Safety

Complies with the requirements of EN61010-1.

### EMC

Complies with the requirements of EN61326 for emissions and immunity.

### AC Power Input

90 VAC to 264 VAC (Autoranging); 47 Hz to 63 Hz

### Display

3.8" ¼ VGA (320 x 240) Black & White

### Mechanical

Height 104 mm (4.1") Width 322 mm (12.7")

Depth 285 mm (11.1") Weight 3 kg (6.6 lb)

### Temperature Range

Operating: 0 °C to 40 °C

Full Accuracy: 23 °C ±5 °C

Storage: -40 °C to +70 °C

### Order Codes

Model	Part No.
4310R (100 kHz LCR Meter)	1J4310R
4320R (200 kHz LCR Meter)	1J4320R
4350R (500 kHz LCR Meter)	1J4350R
43100R (1 MHz LCR Meter)	1J43100R

All units are supplied with User Manual, 1EVA40150 Kelvin Clips and AC power cable as standard.

### Options

Description	Code
Scaleizer (S1 type)	/S1
Scaleizer (S2 type)	/S2
Bin handler (non-isolated)	/B1
Bin handler (isolated 24V)	/B2

Only one option per unit can be fitted.

### Recommended Accessories

Description	Part No.
SMD tweezers For surface mount devices	1EVA40120
Large Jaw Kelvin Clips For large diameter leads	1EVA40180
4-terminal component fixture For maximum accuracy	1EV1006