Autoranging Handheld High Performance Digital LCR Bridge

LCR-500

*The **LCR-500** is an economical powerful hand-held LCR meter with features rivaling expensive benchtop systems.*

- **1 mΩ to 10 MΩ; 0.1 pF to 10 mF; 0.1 µH to 10,000 H**
- **Autoranging and manual ranging**
- **Two frequency operation: 120 Hz and 1 kHz**
- **Sorting capability with selectable tolerances**
- **True bridge complex impedance capacity, L/C/R values as well as simultaneous D/Q (Dissipation/Quality)**
- **Auto power off; uses standard 9 V battery**
- **Operating guide attached to unit**
- **Automatic statistics**



***LCR-500** Handheld Impedance Meter*

SPECIFICATIONS

CAPACITANCE (C)

Full scale ranges: 1,000 pF to 10 mF, in 8 ranges.
Resolution: 0.1 pF, 0.001 mF
Accuracy[1]:

Range	120 Hz	1 kHz
10 mF	±(5.0% + 5 LSD)	NA
1,000 µF	±(1.0% + 5 LSD)	±(5.0% + 5 LSD)
100 µF	±(0.7% + 3 LSD)	±(1.0% + 5 LSD)
1,000 nF,10 µF	±(0.7% + 3 LSD)	±(0.7% + 3 LSD)
100 nF	±(0.7% + 5 LSD)	±(0.7% + 3 LSD)
10 nF	±(1.0% + 5 LSD)	±(0.7% + 5 LSD)
1,000 pF	NA	±(1.0% + 5 LSD)

D (Dissipation): ±(0.7% + 100/C rdg +5 LSD), basic accuracy.

Impedance Model: (default) G, C — user selectable — C, G

INDUCTANCE (L)

Full scale ranges: 1 mH to 10,000 H in 8 ranges.
Resolution: 0.1 µH - 1 H
Accuracy[1,2]:

Range	120 Hz	1 kHz
10,000 H	5% typical	NA
1,000 H	±(1.0% + 5 LSD)	5% typical
100 H	±(0.7% + 5 LSD)	±(1.0% + 5 LSD)
1 H, 10 H	±(0.7% + 5 LSD)	±(0.7% + 5 LSD)
100 mH	±(1.0% + 5 LSD)	±(0.7% + 5 LSD)
10 mH	±(2.0% + 5 LSD)	±(1.2% + 5 LSD)
1 mH	NA	±(2.0% + 5 LSD)

D (1/Q): ±(1.2% + 100/L rdg + 5 LSD), basic accuracy.

Impedance Model: (default) L, R — user selectable — L, R

1) LSD: Least significant digit 2) + (L counts x 10^{-4})%.

RESISTANCE (R)

Full scale ranges: 10 Ω to 10 MΩ, in 7 ranges.
Resolution: 1 mΩ - 0.001 MΩ
Accuracy[1]:

Range	Accuracy
10 MΩ	±(2.0% + 8 LSD)
1 MΩ	±(0.5% + 5 LSD)
1 kΩ -100 kΩ	±(0.5% + 3 LSD)
100 Ω	±(0.8% + 5 LSD)
10 Ω	±(1.2% + 8 LSD)

GENERAL SPECIFICATIONS

Displays:
L/C/R: Maximum display of 9999 except at 10 mF (120 Hz) and 1 mF (1 kHz) measurement ranges which have a maximum display of 1999.
D/Q: 3 digits, maximum display 999 (autorange).
Status: Annunciators for units, low battery, frequency, open fuse; audio tone for tolerance testing, and other test conditions.

Ranging mode: Auto and manual.

Test frequency: 1 kHz and 120 Hz.

Test signal level: 0.9 Vrms approximately.

Measurement rate: 1 measurement/second, nominal.

Measurement terminals: 2 banana jacks and 2 easy-insert component sockets.

Operating modes: Relative, calibration, tolerance sorting, and max/min/avg recording.

Input protection: 70 mA fast-blow 250 V fuse.

Auto power-off time: Approximately 5 minutes; may be disabled.

Power Requirements:
1) Battery, 9 V;
2) External adapter, 12-15 Vdc, 50 mA.

Dimensions: 19.2 cm L x 9.0 cm W x 3.7 cm H (7.56" x 3.54" x 1.46").

Weight: 390 g (3 oz).

ORDERING INFORMATION

LCR-500	Autoranging LCR meter
LCR-5001	AC adapter (110 or 220 V switchable)
LCR-5002	Carrying case
CC-25	Component clip

IET LABS, INC. in the GenRad Tradition
534 Main Street, Westbury, NY 11590
www.ietlabs.com
TEL: (516) 334-5959 • (800) 899-8438 • FAX: (516) 334-5988