



DIGITAL LCR METER

Model : LCR-9053

1. FEATURES

- * A hand held, Battery operated, Inductance, Capacitance and Resistance Meter.
- * High measuring accuracy .
- * LSI-circuit provides high reliability and durability.
- * Input overload protection .
- * Large LCD display for clear readout even in bright ambient light conditions.
- * Rotary switch function selector .
- * Color-coded panel for easy identification of functions and ranges .
- * Low battery indicator.

2. SPECIFICATIONS

2-1 General Specifications

Display	18mm (0.7") LCD (Liquid Crystal display) Max indication 1999.
Measurement	L (Inductance) C (Capacitance) R (Resistance)
Zero Adjustment	Automatic (except 2nF rang, typically have 0-3 pf circuit stray capacitance).
Over-load Indication	Display shows "1".
Sampling Time	0.4 second.
Operating Temperature	0 °C to 50 °C (32 to 122 °F)
Operating Humidity	80% MAX. R.H.
Power Supply	9V DC MN1604 (PP3) or equivalent. Power consumption around 11 mA.
Dimension	185 x 87 x 39mm (7.3 x 3.4 x 1.5 inch)
Weight	322 g/0.71 LB (including battery).
Standard Accessories	Measuring leads with croc. clips 1 pair. Instruction manual 1 PC.

2-2 Electrical specifications

A. Inductance & Capacitance range

L (Inductance)			
Range	Resolution	Test Frequency	Current through Inductance under test
2 mH	1 uH	1 KHz	150 uA
20 mH	10 uH	1 KHz	150 uA
200 mH	100 uH	1 KHz	150 uA
2 H	1 mH	1 KHz	150 uA
20 H	10 mH	100 KHz	15 uA

uH = micro Henry (10^{-6} H).
mH = mili Henry (10^{-3} H).

C (Capacitance)

Range	Resolution	Test Frequency	Voltage across Capacitance under test
2 nF	1 pF	1 KHz	150 mV
20 nF	10 pF	1 KHz	150 mV
200 nF	100 pF	1 KHz	150 mV
2 uF	1 nF	1 KHz	150 mV
20 uF	10 nF	100 Hz	150 mV
200 uF	100 nF	100 Hz	15 mV

pF= pico Farad (10^{-12} F) nF= nan. Farad (10^{-9} F)
uF= micro Farad (10^{-6} F)

Accuracy (23 ± 5 °C)	Capacitance	2 nF : ±(3.5% FS + 2 dgt) > 2 nF : ±(2% FS + 5 dgt)
	Inductance	0.5 H : ±(2% FS + 2 dgt) > 0.5 H : ±(6% FS + 1 dgt)
Temperature Coefficient	Capacitance	0.5uF : ±0.1% °C >0.5uF : ±0.2% °C
	Inductance	.5H : ±0.2% °C >0.5H : ±0.5% °C
Zero Error	Capacitance	2nF range , <5pF
	Inductance	<10uH
Overload Rating	Charged capacitor, 100 uF Capacitance max. 42V charged voltage.	

B. Resistance range

RANGE	ACCURACY	RESOLUTION	OPEN CIRCUIT VOLTAGE
200 ohm	±(1% FS + 3 d)	0.1 ohm	Approx . DC 1.2V
2K ohm		1 ohm	
20K ohm	±(0.8% FS + 1d)	10 ohm	Approx . DC 250 mV
200K ohm		100 ohm	
2000K ohm		1K ohm	
20M ohm	±(2% FS + 2 d)	10K ohm	