

100 Hz / 120 Hz / 1 KHz / 10 KHz

# LCR METER

Model : LCR-9173

ISO-9001, CE, IEC1010



SMD TESTER, optional  
Model : SMDA-22



SMD TEST CLIP, optional  
Model : SMDC-21  
( optional )



Carrying case  
( optional )



LUTRON ELECTRONIC

*The Art of Measurement*



**Compact size, + DC frequency  
100 Hz/120 Hz/1 KHz/10 KHz  
Ls/Lp/Cs/Cp/Rs/Rp with D/Q/θ /ESR parameters**

# LCR METER

**Model : LCR-9173**

## FEATURES

- \* 6000 counts ADC resolution.
- \* Dual power supply , Battery or AC/DC Adapter.
- \* High performance analog front end for impedance (Z) measurement.
- \* Support Z / DCR measurement for LCR mode.
- \* Four different test frequency are available : 100 Hz/120 Hz/1 KHz/10 KHz for L/C/R measurement.
- \* Built-in simple DMM front end circuit to support DCV / Freq. / Diode mode.
- \* Test AC signal level : 0.5 V rms typically.
- \* Test range : ( ex. F = 1 KHz )  
L : 600.0 uH to 60.00 H  
C : 600.0 pF to 600.0 uF  
R : 60.00Ω to 20.00 MΩ
- \* Low battery voltage detector.
- \* Min. source resistance : 120Ω typical.
- \* 6 ratio resistor range used for LCR mode.
- \* Support buzzer sound driver with driving pattern & frequency selectable.

## GENERAL SPECIFICATIONS

Display	LCD size : 46.5 X 45.5 mm.
Test frequency	100 Hz/120 Hz/1 KHz/10 KHz
MODE	L/C/R L/C/R Function selector Frequency selector D/Q/θ selector SER/PAL selector DCV DCV/Freq./Diode selector
Dissipation factor	0.0000 to 1999
Quality factor	0.0000 to 1999
θ measurement	± 90°
Calibration	Open/Short calibration
Data Hold	Freeze the display reading
Power off	Auto shut off saves battery life or manual off by push button
Operating temperature	0°C to 50°C
Operating humidity	Less than 85% R.H.
Power Supply	006P DC 9V battery * Alkaline or Heavy duty type DC 9V adapter input * AC/DC power adapter is optional.
Power consumption	DC 6 mA approximately
Dimension	151 x 78 x 43mm
Weight	235 g * meter only
Standard Accessories	* Instruction manual.....1 PC * Alligator clips.....1 PC
Optional Accessories	SMD tester, SMDA-22 SMD test clip, SMDC-21 AC to DC 9V adapter

## ELECTRICAL SPECIFICATIONS (23± 5 °C)

### Resistance ( DCR )

Range	Accuracy	Remark
60 Ω	± ( 1.5% + 5d )	After calibration
600 Ω	± ( 1.0% + 5d )	
6000Ω	± ( 1.0% + 5d )	
60 KΩ	± ( 1.0% + 5d )	
600 KΩ	± ( 1.0% + 5d )	
6000 kΩ	± ( 1.0% + 5d )	
20 MΩ	± ( 1.5% + 5d )	After calibration

### Resistance(Z) ( Rp/Rs ) 0.5V(rms)

Range	Accuracy 100 Hz/120 Hz	Accuracy 1k Hz	Remark
60 Ω	± ( 1.5% + 5d )	± ( 1.5% + 5d )	After calibration
600 Ω	± ( 1.2% + 5d )	± ( 1.2% + 5d )	
6000Ω	± ( 1.2% + 5d )	± ( 1.2% + 5d )	
60 KΩ	± ( 1.2% + 5d )	± ( 1.2% + 5d )	
600 KΩ	± ( 1.2% + 5d )	± ( 1.2% + 5d )	
6000 kΩ	± ( 1.2% + 5d )	± ( 1.2% + 5d )	
20 MΩ	± ( 2.0% + 5d )	± ( 2.0% + 5d )	After calibration

Range	Accuracy 10 kHz	Remark
60 Ω	± ( 1.5% + 5d )	After calibration
600 Ω	± ( 1.2% + 5d )	
6000Ω	± ( 1.2% + 5d )	
60 KΩ	± ( 1.2% + 5d )	
600 KΩ	± ( 1.2% + 5d )	
6000 kΩ	± ( 1.2% + 5d )	
20 MΩ	± ( 3.0% + 5d )	After calibration

Remark : \* Don't apply voltage larger than 30 V to input terminals.

\* Appearance and specifications listed in this brochure are subject to change without notice.

### Capacitance ( Cp/Cs ) : D ≤ 0.1, 0.5V(rms)

Range	Accuracy 100 Hz	Accuracy 120 Hz
600 pF	± ( 3.5% + 5d )	± ( 3.5% + 5d )
6000 pF	± ( 2.5% + 5d )	± ( 2.5% + 5d )
60 nF	± ( 2.0% + 5d )	± ( 2.0% + 5d )
600 nF	± ( 2.0% + 5d )	± ( 2.0% + 5d )
6000 nF	± ( 1.5% + 5d )	± ( 1.5% + 5d )
60 uF	± ( 1.5% + 5d )	± ( 1.5% + 5d )
600 uF	± ( 1.5% + 5d )	± ( 1.5% + 5d )
6000 uF	± ( 2.5% + 5d )	± ( 2.5% + 5d )
10 mF	± ( 3.5% + 5d )	± ( 3.5% + 5d )

Range	Accuracy 1k Hz	Accuracy 10 kHz
600 pF	± ( 2.5% + 5d )	± ( 2.0% + 5d )
6000 pF	± ( 2.0% + 5d )	± ( 1.5% + 5d )
60 nF	± ( 2.0% + 5d )	± ( 1.5% + 5d )
600 nF	± ( 1.5% + 5d )	± ( 1.5% + 5d )
6000 nF	± ( 1.5% + 5d )	± ( 1.5% + 5d )
60 uF	± ( 1.5% + 5d )	± ( 2.5% + 5d )
600 uF	± ( 2.5% + 5d )	-----
6000 uF	-----	-----
10 mF	-----	-----

Remark :

\* Don't apply voltage larger than 30 V to input terminals.

\* Discharge capacitor before measurement.

\* If intend to obtain the accurate value, please test the component.

into the " Pin terminals " ( 3-7, Fig. 1 ) or tested via optional.

SMD tester, SMDA-22 or SMD test clip, SMDC-21.

### Inductance ( Lp/Ls ) : D ≤ 0.1, 0.5V(rms)

Range	Accuracy 100 Hz	Accuracy 120 Hz	Remark
600 uH	-----	-----	
6000 uH	-----	-----	
60 mH	± ( 2.0% + 5d )	± ( 2.0% + 5d )	
600 mH	± ( 1.5% + 5d )	± ( 1.5% + 5d )	
6000 mH	± ( 1.5% + 5d )	± ( 1.5% + 5d )	
60 H	± ( 1.5% + 5d )	± ( 1.5% + 5d )	After calibration
200 H	± ( 2.5% + 5d )	± ( 2.5% + 5d )	After calibration

Range	Accuracy 1k Hz	Accuracy 10 kHz	Remark
600 uH	± ( 2.5% + 5d )	± ( 2.5% + 5d )	After calibration
6000 uH	± ( 2.0% + 5d )	± ( 2.0% + 5d )	
60 mH	± ( 1.5% + 5d )	± ( 1.5% + 5d )	
600 mH	± ( 1.5% + 5d )	± ( 1.5% + 5d )	
6000 mH	± ( 1.5% + 5d )	± ( 1.5% + 5d )	
60 H	± ( 2.5% + 5d )	-----	After calibration
200 H	-----	-----	

Remark :

\* Discharge inductor before measurement.

\* If intend to obtain the accurate value, please test the component

into the " Pin terminals " ( 3-7, Fig. 1 ) or tested via optional

SMD tester, SMDA-22 or SMD test clip, SMDC-21.

### Scale range configuration

Function mode	Frequency	Meas. Range	Min. resolution
Inductance	100/120Hz	60.00mH~200.0H	0.01mH
Ls / Lp	1kHz	6000uH~60.00H	1uH
	10kHz	600.0uH~6000uH	0.1uH
	100/120Hz	60.00nF~10.00mF	0.01nF
Cs / Cp	1kHz	6000pF~600.0uF	1pF
	10kHz	600.0pF~60.0uF	0.1pF
	100/120Hz	60.00Ω ~20.00MΩ	0.01Ω
Rs / Rp	1kHz	60.00Ω ~20.00MΩ	0.01Ω
	10kHz	60.00Ω ~20.00MΩ	0.01Ω
DC resistance	N/A	60.00Ω ~20.00MΩ	0.01Ω

### DMM mode

Function mode	Meas. Range	Min. resolution
DCV	600.0mV~20.00V	0.1mV
Frequency	6.000kHz~15.00MHz	1Hz

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