

100 Hz / 120 Hz / 1 KHz / 10 KHz

# LCR METER



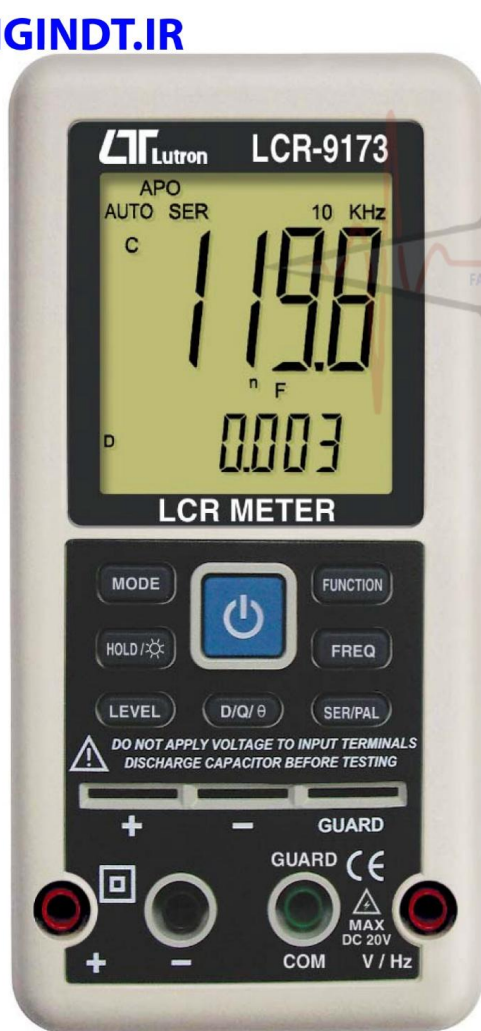
Model : LCR-9173

ISO-9001, CE, IEC1010

FGJ-NDT.IR

Tehran, Tehransar

DIGINDT.IR



SMD TESTER, optional  
Model : SMDA-22



Carrying case  
( optional )

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**Lutron**

LUTRON ELECTRONIC

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



**The Art of Measurement**

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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

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### 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 then 85% R.H.
Power Supply	006P DC 9V battery * Alkaline or Heavy duty type DC 9V adapter input * AC/DC power adapter is optional. DC 6 mA approximately
Power consumption	
Dimension	151 x 78 x 43mm
Weight	235 g * meter only
Standard Accessories Included	* 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.

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

Range	Accuracy 100 Hz	Accuracy 120 kHz
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 kHz	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
	1kHz	6000uH~60.00H	1uH
	10kHz	600.0uH~6000uH	0.1uH
Ls / Lp	100/120Hz	60.00nF~10.00mF	0.01nF
	1kHz	6000pF~600.0uF	1pF
	10kHz	600.0pF~60.00uF	0.1pF
Cs / Cp	100/120Hz	60.00Ω ~20.00MΩ	0.01Ω
	1kHz	60.00Ω ~20.00MΩ	0.01Ω
	10kHz	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

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