

# LCR-600

## 100 KHZ HIGH PRECISION LCR METER



### Model LCR-600 comes with:

- LCR Meter
- BNC to Kelvin Clip Test Lead
- Power Cord
- User Manual

### Features

- Measures:  $L_s$ ,  $L_p$ ,  $C_s$ ,  $C_p$ ,  $R_s$ ,  $R_p$ ,  $D$ ,  $Q$ , ESR, ER, Z,  $\theta$ , DCR
- Frequency range: 100 Hz to 100 kHz
- Auto Range
- Auto Detect
- Sorting Function
- Open circuit compensation
- Short circuit compensation
- Basic accuracy of 0.3%
- Two displays
- Display hold

### Overview

The LCR-600 is a high precision test instrument used for measuring the inductance (L), capacitance (C), and resistance (R) of an electrical component.

Use the LCR-600 to:

- Check ESR values of capacitors and inductors
- Sort and/or select components
- Measures unmarked and unknown components
- Measure capacitance, inductance, or resistance of cables, switches, circuit board foils, etc.



# LCR-600

## SPECIFICATIONS

LCR-600	Specification
Input Power	115/230 V, 50/60 Hz, Fuse: 600/300 mA
Test Voltage	Constant 0.6 V rms
Operating Environment	Temp: 0 °C ~ 40 °C (32 °F ~ 104 °F) Humidity: 20% ~ 80%
Storage Environment	Temperature: -20 °C ~ 70 °C (-4 °F ~ 158 °F) Humidity: 0% ~ 90%

### Impedance Accuracy (Ae)

Freq\Z	0.1-1Ω	1-10Ω	10-100kΩ	100kΩ-1MΩ	1MΩ-20MΩ	20MΩ -200MΩ
DCR	1.0%+5d	0.5%+3d	0.3%+2d	0.5%+3d	1.0%+5d	2.0%+5d
100/120 Hz	1.0%+5d	0.5%+3d	0.3%+2d	0.5%+3d	1.0%+5d	2.0%+5d
1 kHz	1.0%+5d	0.5%+3d	0.3%+2d	0.5%+3d	1.0%+5d	2.0%+5d
10 kHz	1.0%+5d	0.5%+3d	0.3%+2d	0.5%+3d	2.0%+5d	-
100 kHz	2.0%+5d	1.0%+5d	0.5%+3d	1.0%+5d	2.0%+5d (1-2 MΩ)	
Note	Table for D < 0.1. If D > 0., the accuracy should be multiplied by $\sqrt{(1+D^2)}$					
	Zc = 1/2πfC if D << 0.1 in capacitance mode Zl =2πfL if D << 0.1 in inductance mode					

### LCR-600 Dimensions

Product Only

L x W x H

12 x 10 x 4 in

Weight

5.10 lbs

Shipping

L x W x H

15 x 12 x 6 in

Weight

7 lbs

20171026

# LCR-600

## SPECIFICATIONS

### D Value Accuracy

Freq $\backslash$ Z	0.1 - 1 $\Omega$	1-10 $\Omega$	10-100k $\Omega$	100k - 1M $\Omega$	1M - 20M $\Omega$	20M - 200M $\Omega$
100/120 Hz	$\pm 0.010$	$\pm 0.005$	$\pm 0.003$	$\pm 0.005$	$\pm 0.010$	$\pm 0.020$
1 kHz	$\pm 0.010$	$\pm 0.005$	$\pm 0.003$	$\pm 0.005$	$\pm 0.010$	$\pm 0.050$
10 kHz	$\pm 0.010$	$\pm 0.005$	$\pm 0.003$	$\pm 0.005$	$\pm 0.002$	-
100 kHz	$\pm 0.020$	$\pm 0.010$	$\pm 0.005$	$\pm 0.010$	$\pm 0.020$	

### L<sub>DUT</sub> Accuracy

Freq.	Accuracy (Q > 10 or D < 0.1)				
100 Hz	159 $\mu$ H~1.59mH	1.59mH~15.9mH	15.9mH~159H	159H~1.59kH	1.59kH~20kH
	1.0% +5d	0.5%+3d	0.3%+2d	0.5%+3d	1.0%+5d
120 Hz	133 $\mu$ H~1.33mH	1.33mH~13.3mH	13.3mH~133H	133H~1.33kH	1.33kH~20kH
	1.0% +5d	0.5%+3d	0.3%+2d	0.5%+3d	1.0%+5d
1 kHz	1.59 $\mu$ H~159 $\mu$ H	159 $\mu$ H~1.59mH	1.59mH~1.59H	1.59H~159H	159H~2.0kH
	1.0% +5d	0.5%+3d	0.3%+2d	0.5%+3d	1.0%+5d
10 kHz	1.59 $\mu$ H~15.9 $\mu$ H	15.9 $\mu$ H~159 $\mu$ H	159 $\mu$ H~1.59H	1.59H~15.9H	15.9H~20H
	1.0% +5d	0.5%+3d	0.3%+2d	0.5%+3d	2.0%+5d
100 kHz	0.159 $\mu$ H~1.59 $\mu$ H	1.59 $\mu$ H~15.9 $\mu$ H	15.9 $\mu$ H~159mH	159mH~200mH	-
	2.0%+5d	1.0%+5d	0.5%+3d	1.0%+5d	-
if D > 0.1, the accuracy should be multiplied by $\sqrt{(1+D^2)}$					

### LCR-600 Dimensions

Product Only

L x W x H

12 x 10 x 4 in

Weight

5.10 lbs

Shipping

L x W x H

15 x 12 x 6 in

Weight

7 lbs

20171026

# LCR-600

## SPECIFICATIONS

### $C_{DUT}$ Accuracy

#### Note

All accuracy values are valid between:

- 18 - 28 °C or
- 64.4 - 82.4 °F

You must discharge capacitors before connecting them to the LCR-600

Freq.	Accuracy (Q > 10 or D < 0.1)					
100 Hz	1.59mF~15.9mF	159μF~1.59mF	15.9nF~159μF	1.59nF~15.9nF	79.6pF~1.59nF	7.96pF~79.6pF
	1.0% +5d	0.5%+3d	0.3%+2d	0.5%+3d	1.0%+5d	2.0%+5d
120 Hz	1.33mF~1.33mF	133μF~1.33mF	13.3nF~133μF	1.33nF~13.3nF	66.3pF~1.33nF	6.63pF~66.3pF
	1.0% +5d	0.5%+3d	0.3%+2d	0.5%+3d	1.0%+5d	2.0%+5d
1 kHz	159μF~1.59mF	1.59μF~159μF	1.59nF~15.9μF	159pF~1.59nF	7.96pF~159nF	0.79pF~7.96pF
	1.0% +5d	0.5%+3d	0.3%+2d	0.5%+3d	1.0%+5d	2.0%+5d
10 kHz	15.9μF~159μF	1.59μF~15.9μF	159pF~1.59μF	15.9pF~159pF	0.79pF~15.9pF	-
	1.0% +5d	0.5%+3d	0.3%+2d	0.5%+3d	1.0%+5d	-
100 kHz	1.59μF~15.9μF	159nF~15.9μF	15.9pF~159nF	1.59pF~15.9pF	0.79pF~15.9pF	
	2.0%+5d	1.0%+5d	0.5%+3d	1.0%+5d	2.0%+5d	
if D > 0.1, the accuracy should be multiplied by $\sqrt{(1+D^2)}$						

### θ Value Accuracy

Freq $\angle$	0.1 - 1Ω	1-10Ω	10-100kΩ	100k - 1MΩ	1M - 20MΩ	20M - 200MΩ
100/120 Hz	±0.57°	±0.29°	±0.17°	±0.29°	±0.57°	±1.15°
1 kHz	±0.57°	±0.29°	±0.17°	±0.29°	±0.57°	±2.86°
10 kHz	±0.57°	±0.29°	±0.17°	±0.29°	±1.15°	-
100 kHz	±1.15°	±0.57°	±0.29°	±0.57°	±1.15°	

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