10MHz / 5MHz / 1MHz PRECISION LCR METER

CE RS-232 GPIB PC Software

LCR-8000G Series

FEATURES

- Wide Test Frequency 20Hz~10/5/1MHz
- 0.1% Basic Accuracy & 6 Digits Measurement Resolution
- Large LCD Display with Intuitive User Interface
- Full Measuring Functions with DUT V/I Monitor
- PASS/FAIL Function (abs , % , △) with Judgment Alarm
- Average 1 ~ 256 Times
- DC Resistance Measurement
- Multi Step Mode
- Graph Mode
- Standard RS-232C / GPIB Interface

APPLICATIONS

- Education Lab and Training Institution
- Research & Design
- Quality Assurance Verification

The Smarter Way to Characterize Components

The LCR-8000G Series LCR meter, with test frequency up to 10MHz, provides accuracy, versatility and high resolution for a wide range of component measurements, even including DC resistance measurement and Voltage/Current monitoring. The Multi-Step function allows on-screen programming of customized measurement sequence with Pass/Fail indication. Each program includes 30 test steps and each test step can be set with selected parameters and test limits. Under Multi-Step operation, a tedious work routine can be done step by step automatically just at a press of a button. With Graph Mode, LCR-8110G, LCR-8105G and LCR-8101G display the component impedance response either over a wide range of test frequency sweep or over a wide range of test voltage sweep in a graph chart. This gives an analysis result of either impedance vs. frequency or impedance vs. applied voltage all at a glance. GPIB and RS-232C interfaces are available as standard for instrument control and test result display on the PC. The rich features of LCR-8000G Series easily make your measurement tasks done at a very competitive price.

Wide Frequency Range With Friendly Intuitive User Interface

The LCR-8000G Series is designed to perform precision impedance measurements over a wide frequency range of 20Hz ~ 10MHz for LCR-8110G, 20Hz ~ 5MHz for LCR-8105G and 20Hz ~1MHz for LCR-8101G. The instrument is capable of measuring 11 different parameters with 0.1% basic accuracy, which meets the precision measurement requirements of components and modules used in the RF circuits. The large LCD display with single-layer operation menu of LCR-8000G Series provides users with ultimate convenience to plug and play without much learning time.

Graph Mode

The graph function shows the component characteristics in visual manner. Either voltage sweep or frequency sweep can be selected for horizontal scale. Just select the parameter, and set the start/stop voltage or the start/stop frequency of the sweep, LCR -8000G will run through the sequence of measurements and show the results on a graph. This graphical parameter measurement performs the characteristic verification of components and materials over the response to the changes in AC test frequency or AC test voltage without the need of complex programming of an external controller. When the graph gets out of the vertical range, the LCR-8000G Series can automatically adjust the scale to get full test information. On the graph the marker operation is available for detailed observation.

Multi Step Mode

The Multi-Step mode is capable of running a series of measurements of a component at a number of user-defined steps in sequence automatically. Total 64 programs can be saved into the non-volatile memory, and each program contains up to 30 test steps. The parameter and Hi/Lo limits can be set respectively for each test step. After a program being properly edited, the instrument can run through all the measurement steps either at a press of the button under the Manual Trigger selection, or automatically run the program by detecting the connection of a DUT under the Auto Trigger selection. When all the test steps are completed, the screen shows the measurement reading of the parameter being selected for each step with Pass, HI, or LO measurement result.

Pass/fail Function With Judgment Alarm

In the Pass/Fail test, primary parameter measurement result is compared with user-defined limits and the pass or fail result is then displayed. Three methods, including absolute limit, percentage and delta limit, are available for Hi(high) and Lo(low) limit setting based on the nominal test value. The Pass/Fail test checks whether the parameter measurement result sits within the limits, then display "PASS" for within the limits, or "LO" for lower than the low limit, or "HI" For higher than the high limit. A scale and bar for displaying measurement result is shown at the center of the screen to give a graphical identification, which greatly reduces operator's load in a long time inspection work. This scale and bar also facilitate the adjustment of the variable components. Either Pass or Fail result can be set with a buzzer alarm, which makes component or material sorting easy with sound identification.

GW INSTEK
Made to Measure Since 1975

SPECIFICATIONS

TEST FREQUENCY	20Hz ~ 10MHz/5MHz/1MHz, 5 Digits, ±0.005%
INPUT IMPEDANCE	100Ω
BASIC ACCURACY	±0.1% (R, Z, X, G, Y, B, L, C)
TEST SPEED	AC (>2kHz) MAX: 75mS FAST: 150mS MEDIUM: 450mS SLOW: 600mS DC MAX: 30mS FAST: 60mS MEDIUM: 120mS SLOW: 900mS

TEST SIGNAL LEVELS

Test Frequency	Test Signal Level (rms)	Step	Accuracy
≤ 3MHz	10mV ~ 2V	1mV/10mV	2%± 5mV
> 3MHz	10mV ~ 1V	1mV/10mV	2%± 5mV

SHORT CIRCUIT CURRENT	Max. 20mA

MEASUREMENT RANGES

Mode	Measure Range
R, Z, X, Rdc	0.1mΩ ~ 100MΩ
G, Y, B	10nS ~ 1000S
L	0.1nH ~ 100kH
C	0.01pF ~ 1F
D	0.00001 ~ 9.9999
Q	0.1 ~ 9999.9
θ	-180°~ +180°

MEASUREMENT PARAMETERS	Impedance (Z), Phase Angle (θ), Inductance (L), Capacitance (C), AC Resistance (Rac), Quality Factor (Q), Dissipation Factor (D), Admittance (Y), Conductance (G), Reactance (X), Susceptance (B), DC Resistance (Rdc)
SERIES OR PARALLEL EQUIVALENT CIRCUIT	C + R, C + D, C + Q, L + R, L + Q, L + D
SERIES EQUIVALENT CIRCUIT ONLY	X + R, X + D, X + Q
PARALLEL EQUIVALENT CIRCUIT ONLY	C + G, B + G, B + D, B + Q, B + R, L + G
POLAR FORM	Z + Phase Angle, Y + Phase Angle
AVERAGE	1 ~ 256 times
LCD DISPLAY	320 x 240 DOT-MATRIX
INTERFACE	RS-232C, GPIB
POWER SOURCE	AC 115V (+10%/-25%), AC 230V (+15% / -14%) (Selectable), 50/60Hz
DIMENSIONS & WEIGHT	330(W) x 170(H) x 340(D) mm, Approx. 5kg

: Basic accuracy varies with the speed frequency AC signal level and the impedance of DUT

Specifications subject to change without notice. CR-8000GGD2DH

ORDERING INFORMATION

LCR-8110G	10 MHz Precision LCR Meter
LCR-8105G	5 MHz Precision LCR Meter
LCR-8101G	1 MHz Precision LCR Meter

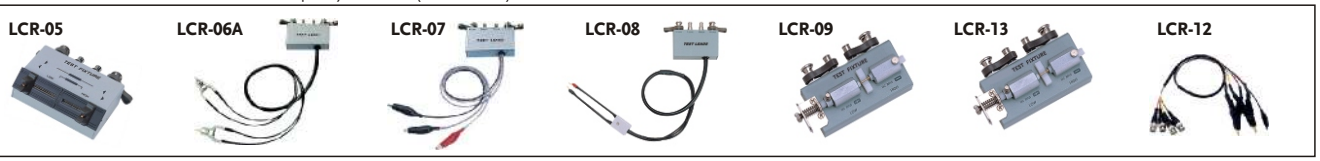
STANDARD ACCESSORIES

User manual x 1
Power cord x 1
Test lead LCR-12 x 1

OPTIONAL ACCESSORIES SELECTION GUIDE

Accessory Model	Brief Description	LCR-8110G	LCR-8105G	LCR-8101G
LCR-05	Test Fixture for axial & radial lead components	△	△	✓
LCR-06A	Test Lead with Kelvin clip (4 wire type)	△	△	✓
LCR-07	Test Lead with Alligator clip (2 wire type)	△	△	✓
LCR-08	Test Fixture (Tweezers) for SMD/Chip components	△	△	✓
LCR-09	Test Fixture for SMD/Chip components	✓	✓	✓
LCR-12	Test Lead with Kelvin clip (4 wire type)	✓	✓	✓
LCR-13	Test Fixture for SMD/Chip components	✓	✓	✓
GTL-232	RS-232C Cable	✓	✓	✓
GRA-404	Rack Adapter Panel (19", 4U)	✓	✓	✓

Note : "△" means the accessories work with a frequency limitation (under 1MHz)



Global Headquarters
GOOD WILL INSTRUMENT CO., LTD.
No. 7-1, Jhongsing Road, Tucheng City, Taipei County 236, Taiwan
T +886-2-2268-0389 **F** +886-2-2268-0639
E-mail: marketing@goodwill.com.tw

China Subsidiary
GOOD WILL INSTRUMENT (SUHZOU) CO., LTD.
NO. 69, Lushan Road, Snd, Suzhou Jiangsu 215011 China
T +86-512-6661-7177 **F** +86-512-6661-7277
E-mail: marketing@instek.com.cn

Malaysia Subsidiary
GOOD WILL INSTRUMENT (M) SDN. BHD.
27, Persiaran Mahsuri 1/1, Sunway Tunas,
11900 Bayan Lepas, Penang, Malaysia
T +604-6309988 **F** +604-6309989
E-mail: sales@goodwill.com.my

U.S.A. Subsidiary
INSTEK AMERICA CORP.
3661 Walnut Avenue Chino, CA 91710, U.S.A.
T +1-909-5918358 **F** +1-909-5912280
E-mail: sales@instekamerica.com

Japan Subsidiary
INSTEK JAPAN CORPORATION
4F, Prosper Bldg, 1-3-3 Iwamoto-Cho Chiyoda-Ku,
Tokyo 101-0032 Japan
T +81-3-5823-5656 **F** +81-3-5823-5655
E-mail: info@instek.co.jp

Korea Subsidiary
GOOD WILL INSTRUMENT KOREA CO., LTD.
Room No.805, Ace Hightech-City B/D 1Dong,
Mullae-Dong 3Ga 55-20, Yeongduengpo-Gu, Seoul, Korea
T +82 2 3439 2205 **F** +82 2 3439 2207
E-mail : gwinstek@gwinstek.co.kr

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www.gwinstek.com