



GW Instek LCR-8201

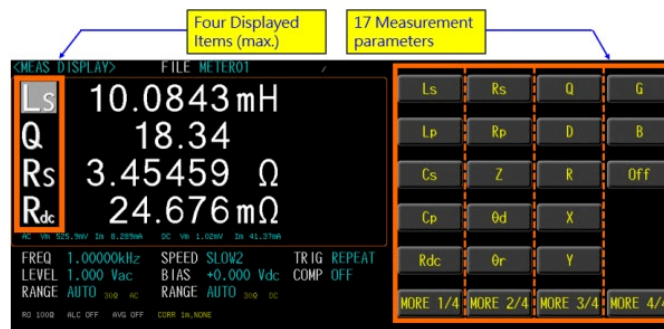
High Frequency LCR Meter
[New Product Announcement](#)

This document allows GW Instek's partners to quickly grasp product's main features, FAB and ordering information.

system integration, the LCR-8201 offers the most comprehensive communications interfaces, including USB device, RS-232C, LAN for PC connection and even GPIB, which are all standard communications interfaces. Users can choose according to the habits of use and the convenience of the system architecture without any additional cost. In addition, the LCR-8201 also provides a Handler interface for system integration of PLCs or sorters.

The Smarter Way to Characterize Component

The Presentation of flexible measurement combinations



LCR-8201 allows users to select and arrange measurement parameters. Users can select at least one parameter to maximum four parameters from the 17 measurement parameters according to the measurement requirements and the presentation order can also be arranged in a desired manner. The set parameters can be stored in internal/external memory groups for subsequent recalls.

Independent setting judgment



Each selected test parameter can independently set judgement and comparison such as value, difference value or difference percentage. Additionally, the display method can also be based on value, difference value or difference percentage to self-define the presentation of test results, and the observation is more in line with the actual needs. In addition to using the warning sound, all the parameters set for comparison judgment will be displayed in different colors. "Red" means that the limit value is exceeded, and "Green"

means that it is within the limit value, so that the judgment can be conducted smoothly under noisy environment.

LIST measurement



The 15-point LIST measurement mode provides measurement values at a specific frequency or voltage of the DUT, and each set point can set independent comparison and judgement. When the trigger mode is set to "AUTO", the display "WAIT ON" will appear on the measurement screen and LCR-8201 will detect the contact status of the fixture. When the DUT is connected, the test will start automatically.

Two-curve Sweep



Up to 2 characteristic parameters of the DUT can be swept at the same time. Sweep type (frequency/Vac/lac), axis form (LOG/LINEAR), sweep speed, even adding bias (internal), etc can be set according to the actual demands. After the sweep is completed, automatic adjustment can be used to obtain the best observation display. The movable cursor can be used to obtain the measurement result of the specific position. Swept displays and point values can be saved to the flash drive via the USB host on the panel for subsequent analysis.

BIN Function



BIN settings for one specific parameter of the selected measurement parameters provide up to 9 BIN positions. Set the judgment basis for individual classifications according to the desired BIN methods (EQUAL/SEQUENTIAL/TOLERANCE/RANDOM) and limit value mode (VALUE/delta/delta%). The result of this sorting can be obtained through the Handler interface. If directly connected to an external device such as a sorter, an immediate sorting can be performed.

Complete standard interfaces



Provides a variety of standard PC connection interfaces such as RS-232C, USB device, LAN, and GPIB industrial control interface to remotely control settings or read measurement results and other related information so as to substantially increase work efficiency without having to pay for additional interface procurement costs. In addition, LCR-8201 also provides Handler interface for PLC external control or for the collocation of measurement integration of sorters.

Key Features

- Wide Test Frequency DC, 10Hz ~ 1MHz
- 7" LCD color Display
- 0.08% Basic Accuracy
- Displaying Four Measurement results simultaneously from 17 selectable measurement parameters freely
- 15 steps List Measurement
- Two Curves Sweep Mode
- Internal DC Bias Voltage $\pm 12V$
- USB Storage available
- ALC function available
- Standard Interfaces : RS-232C, USB host/device, LAN, GPIB and Handler
- Universal power input

7" TFT LCD, supporting a greater view of setting parameters, testing value as well as Sweep trace.

Function keys to select corresponding option which located on the right of LCD screen

Arrow keys to navigate cursor on the screen

DC Bias indicator lights up when bias is active



USB host provides screen capture or Sweep data storage

Terminal to connect test fixture for measurement

Handler port provides external control by PLC or control system





Complete communication ports, USB/RS-232/LAN as well as GPIB, facilitate the easy & convenient communication.

Specifications comparison ~ LCR-8201 vs LCR-8101G

Specifications highlighted in BLUE represent better performance

"X" represents "no such function" or "function not available"

Brand	GW	GW
Model	LCR-8201	LCR-8101G
Outlook		
Display	7" Color(840x480)	5.6" Mono(320x240)
Operating Method	Key-pad	Key-pad
Frequency	DC,10Hz-1MHz	DC, 20Hz-1MHz
Graph(Sweep)	Standard ~ Two curves	Standard ~ One curve
Basic Accuracy	0.08%	0.10%
Output Impedance	25Ω,100Ω	100Ω
Test Speed (Fast)	2.5ms	75ms
Test Parameters	Z , Y , C, L, X, B, R,Q, D, G, θ, Rdc	Z , Y , C, L, X, B, R,Q, D, G, θ, Rdc
Test Signal (AC Volt.)	≤ 1MHz:10mV-2V (RO=100Ω) ≤ 1MHz:10mV-1V (RO=25Ω)	≤ 3MHz:10mV-2V
Test Signal (AC Curr.)	100μA ~ 20mA (RO=100Ω) 400μA ~ 40mA (RO=25Ω)	X
Test Signal (DCR Volt.)	1Vdc	1~2Vdc
Auto Level Control	Standard	X
Multi Step(List)	15 Step	10 Step
Equivalent Circuit	X	X
Graphic Parameters	Freq/Vrms/Irms	Freq/Vrms
DC Bias	±12V	X
Standard Interfaces	RS232C/ LAN/ GPIB USB host & device/ Handler	RS232/GPIB

Key Dates for Product Announcement

1. Distributor Announcement (2nd of March)
2. Global Market Announcement (26th of March)
3. Demo Unit Order and Shipping starting (1st of April)

Service Policy

1. **1 year warranty**
2. **Service Support**

The service instructions in the Service Manual will help distributors repair defective units promptly. Should a board replacement be necessary to fix a defective unit, a board swapping service is provided by Good Will Instrument to facilitate the repairs done at a distribution site.

3. GW Instek continues to provide the after sales support through its website. The most updated version of the service manual and Marcom material for LCR-8201 will be posted on the distributor zone of GW Instek Website at <https://www.gwinstek.com>

Product Outlook

LCR-8201 (Front ~ numerical)



LCR-8201 (Front ~ Sweep)



LCR-8201 (Rear)



Application and Target Markets

- R&D
 - High frequency drive source with adjustable frequency continuity allows the component to be measured under the real operation environment.
 - High Resolution & Accuracy provide precision measurement results, which helps verify component characteristics.
 - Sweep mode for component and material verification based on the sweep of either AC test frequency, voltage or current.
- Quality Assurance Verification
 - Wide frequency range to cover most of the characteristic measurement items for a broad variety of components.
 - 7" LCD color display, provides greater view of setting parameters, measured values, judgement results as well as swept curves.
 - Pass/ Fail Test function with buzzer alarm makes the heavy duty of component or material measurement job easy
 - List measurement, with each program containing 15 test steps, performs the routine measurements in sequence just at a push of the trigger button
- Education Lab and Training Institution
 - Wide frequency range to cover most of the characteristic measurement items for a broad variety of components.
 - 7" LCD color display, provides greater view of setting parameters, measured values, judgement results as well as swept curves.
 - High Resolution & Accuracy provide precision measurement results, which helps verify component characteristics.
 - Pass/ Fail Test function with buzzer alarm makes the heavy duty of component or material measurement job easy
 - Sweep mode for verification of component and material response to the changes of either AC test frequency, voltage or current.

Specifications

MODEL	LCR-8201
TEST FREQUENCY	
	DC, 10Hz ~ 1MHz; 6 Digits, $\pm 0.0007\%$
OUTPUT IMPEDANCE	
	25 Ω / 100 Ω SELECTABLE
BASIC ACCURACY	
	$\pm 0.08\%$
TEST SPEED	
	MAX: 2.5ms(>10kHz), FAST: 50ms(>20Hz), MEDIUM: 100ms SLOW: 300ms, SLOW2: 600ms
TEST SIGNAL LEVEL	
AC Voltage:	10mV ~ 2Vrms (FREQ. \leq 1MHz and RO=100 Ω), 10mV ~ 1Vrms (FREQ. \leq 1MHz and RO=25 Ω)
AC Current:	100 μ A ~ 20mA (RO=100 Ω), 200 μ A ~ 40mA (RO=25 Ω)
DCR Voltage:	1Vdc (40mA max.)
MEASUREMENT PARAMETERS	
	Maximum four parameters can be measured and displayed at the same time Impedance (Z), Inductance (Ls / Lp), Capacitance (Cs / Cp), AC Resistance (Rs / Rp), Quality Factor (Q), Dissipation Factor (D), Admittance (Y), Conductance (G), Reactance (X), Phase Angle ($\theta d / \theta r$), Susceptance (B), DC Resistance (Rdc)
LIST MEASUREMENT	
Listed Steps:	15
Listed Parameters:	Freq/Vac/Iac/DC Bias/Comp/BIN
Trigger:	AUTO, REPEAT, SINGLE
SWEEP MEASUREMENT	
Swept Graphical:	Two of measurement parameters
Swept Parameters:	Freq/Vac/Iac, Keep Trace
OTHER FUNCTIONS	
Auto Level Control (ALC):	Standard
DC Bias:	0 ~ ± 12 V
Handler:	PASS, FAIL and OK, NG or BIN 1-9
OTHER FEATURES	
Correction:	Open/Short/HF Load/Load
V/I Monitor:	Vac, Iac, Vdc, Idc
Comparator:	Value, Δ , $\Delta \%$
Buzzer:	OFF, Pass, Fail
Average:	1 to 64
DISPLAY	7" LCD color display (800x480)
INTERFACE	USB/GPIB/LAN/RS-232/Handler/USB Host/TRIGGER Input
POWER SOURCE	AC 100V~240V, 50/60Hz; Consumption: 65VA (max.)
DIMENSIONS & WEIGHT	346 (W) X 145 (H) X 335 (D) mm; Approx. 3.3kg

Ordering information**LCR-8201 DC, 10Hz ~ 1MHz High-Frequency LCR Meter****Included Accessories**Safety Sheet x 1, CD x1(user manual),
Power cord x 1, Test lead LCR-06B x 1**Option**

LCR-DB1 DC Bias Voltage Box (up to 200V)

Optional AccessoriesLCR-05A Test Fixture for axial & radial leaded components (up to 30MHz)
LCR-06B 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-10A Test Fixture for Bottom Electrode components (up to 30MHz)
LCR-12 Test Lead with Kelvin clip (4 wire type)
LCR-15A Test Fixture for SMD/Chip components (up to 30MHz)
GTL-232 RS232C Cable, 9-pin Female to 9-pin, null Modem for Computer
GTL-246 USB Cable, USB 2.0, A-B Type, approx. 1200mm
GTL-248 GPIB Cable, approx. 2m

Should you have any questions on the LCR-8201 announcement, please don't hesitate to contact us.

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