



GPS-

# 3200 series

Boasts exceptional accuracy, quick response times, and a broad measurement range

LCR-3200 series offers a comprehensive range of precision meters that cater to diverse measurement needs. The product line features cutting-edge technology and rich functionality, making them suitable for a wide range of applications.

With features including a test frequency range of 10 Hz to 1 MHz (bandwidth continuously adjustable), 0.05% basic measurement accuracy, automatic level control function, list scanning and file counting function, the instrument allows users to accurately analyse and characterise components.

Whether it's in research and development, quality control, or production testing, the 3200' range of precision LCR meters is trusted by professionals worldwide for their reliability, performance, and value.



## Components & Materials (for testing with 3200 series)

- Passive components: capacitors, inductors, magnetic cores, resistors, piezoelectric devices, transformers, chip components and network components impedance parameter evaluation and performance analysis.
- Semiconductor components: C-VDC characteristics of varactor diodes; parasitic parameter analysis of transistors or integrated circuits.
- Other Components: Impedance Evaluation of Printed Circuit Board, Relay, Switch, Cable, Battery, etc.
- Dielectric materials: dielectric constant and loss angle of plastics, ceramics and other materials  
evaluation of magnetic materials: permeability and loss angle  
evaluation of ferrites, amorphous and other magnetic materials.
- Semiconductor Materials: Dielectric Constants, Conductivity and C-V Properties of Semiconductor Materials.
- Liquid Crystal Materials: C-V Characteristics of Dielectric Constants and Elastic Constants of Liquid Crystal Units.

[www.gpslimited.com/3200](http://www.gpslimited.com/3200)  
For all enquiries, Tel: +44 (0) 208 964 3600  
Email: [info@gpslimited.com](mailto:info@gpslimited.com)

## Technical Specifications

GPS-3200 series LCR Meter					
Model	3201	3202	3203	3205	3210
Test Signal Frequency Range	10Hz-100kHz	10Hz-200kHz	10Hz-300kHz	10Hz-500kHz	10Hz-1MHz
Frequency Resolution and Accuracy	Resolution 1 mHz, accuracy 0.01%				
Test Parameters	Cp-D, Cp-Q, Cp-G, Cp-Rp, Cs-D, Cs-Q, Cs-RsLp-D, Lp-Q, Lp-G, Lp-Rp, Ls-D, Ls-Q, Ls-Rs, Rs-Xs,  Z - $\theta_r$ ,  Z - $\theta_d$ ,  Y - $\theta_r$ ,  Y - $\theta_d$ , G-B				
Measuring Display Speed (> 100Hz)	Fast 50 times per second (20ms), moderate 10 times per second (100ms), slow 1.25 times per second (800ms)				
Customized Measurement Speed (> 1kHz)	It can be set between 0.5 times per second and 200 times per second				
LCR Parameter Display Range	Cp, Cs : 0.001000pF~99.9999F Lp, Ls : 0.001000nH~99.9999kH Rp, Rs,  Z , Xs : 0.001000m ~999.999M G, B,  Y  : 0.001000 S~999.999kS $\theta_r$ : $\pm 0.000001$ rad~3.14159rad $\theta_d$ : $\pm 0.000001$ deg~179.9999deg D : $\pm 0.000001$ ~9.99999 Q : $\pm 0.001$ ~99999.9				
Test Signal Voltage Range	0~2Vrms				
Voltage Resolution and Accuracy	Resolution 1 mV, accuracy 5%+5 mV				
Test Signal Current Range	100 Arms~20mArms				
Current Resolution and Accuracy	Resolution 10 A, Accuracy 5%+50 A				
DC Bias Voltage Source	Internal: - 2V ~+2V voltage bias, - 20mA ~+20mA current bias External: - 60V ~+60V Voltage Bias				
Internal Resistance of Signal Source	30 ohms, 100 ohms optional				
Basic Accuracy	0.05%				
Display Resolution	6 1/2 digit				
Comparator	8 combination, 1 unqualified and 1 subsidiary				
Trigger Mode	Internal, manual, external, bus				
Mathematical Operations	Delta (absolute value), Delta (percentage), direct reading				
Calibration function	Self-Calibration, Open Circuit, Short Circuit, Load, 100 Sets of Self-Setting Frequency Points				
List scanning	10-Point List Scanning Test				
Storage device	Internal /USB memory				
Interface	Ethernet, RS232, GPIB, USB and Handler interfaces				
Optional Accessories	<ul style="list-style-type: none"> <li>GPIB Cable</li> <li>RS232 Serial Port Line</li> <li>USB Data Line</li> <li>2m/4m test cable</li> <li>SMD patch element test fixture</li> <li>LCR test pen/four-wire patch element test clamp</li> <li>Kelvin Test Clamp</li> </ul>				

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## General Specifications

### Standard Accessories

Power cord; Kelvin test clip; User manual; Quick start guide

### Display

7" TFT LCD, 800\*480 resolution

### Power Supply

220V.AC  $\pm 10\%$ , 50Hz,  
Optional 110V.AC  $\pm 10\%$ , 50Hz

### Power Consumption

<20W

Part Numbers / Optional Accessories		
Code	Item	Part Number
GPS-3201	Benchtop LCR meter 10hz ~ 100kHz (continuous), 0.05% accuracy	503201
GPS-3202	Benchtop LCR meter 10hz ~ 200kHz (continuous), 0.05% accuracy	503202
GPS-3203	Benchtop LCR meter 10hz ~ 300kHz (continuous), 0.05% accuracy	503203
GPS-3205	Benchtop LCR meter 10hz ~ 500kHz (continuous), 0.05% accuracy	503205
GPS-3210	Benchtop LCR meter 10hz ~ 1MHz (continuous), 0.05% accuracy	503210

### Mass

3.6kg/13.2lbs approx.

### Dimension

330(L)  $\times$  285(W)  $\times$  136(H) mm

### Operating

0 ~ 40 °C, relative humidity <80%

### Storage

-10 ~ 50 °C, relative humidity <80%

### Services

1-year warranty (subject to product registration with GPS Ltd)

## Application Areas

- Electronic capacitors, substrates, PCB, antennas, ferrites, shock absorbers, SAR phantom materials.
- Aerospace/National Defence Stealth, RAM (Radar Wave Absorbing Material), Radome.
- Industrial Material Ceramics and Composites Automotive Parts and Coatings.
- Polymers and Plastic Fibers, Films, Insulating Materials.
- Hydrogel disposable diapers and soft contact lenses.
- Liquid crystal display.
- Other products containing such materials such as tyres, coatings, adhesives, etc.
- Study on Fresh Preservation (Deterioration) of Food and Agricultural Food, Microwave Food Development, Packaging and
- Moisture Content Measurement.
- Water Content Measurement and Oil Content Analysis of Wood/Paper Products in Forestry and Mining Industry.
- Pharmaceutical and medical drug research and production, biological implants, human tissue characterization, biomass, fermentation.