



GPS-132C

Handheld LCR Meter



KEY FEATURES

- L, C, R and Z, with a second parameter
- Six test frequencies to 100 kHz
- Basic accuracy $\pm 0.30\%$
- Sorting against a nominal and tolerance
- Open and short circuit correction
- USB with SCPI · 2.8 in colour display

Test It At Its Working Frequency.

A handheld bridge for the four things a passive component can be asked: inductance, capacitance, resistance and impedance. A second reading sits alongside the first, chosen from reactance, dissipation, quality factor, phase angle or equivalent series resistance.

A component is not one number. Its value depends on the frequency it is measured at, so the same part reads differently at 100 Hz and at 100 kHz. Six frequencies are available, from 100 Hz to 100 kHz, which means the part can be measured where it will actually be working rather than wherever the meter happens to sit.

For a tray of parts, set a nominal value and a tolerance band and the instrument sorts against it, showing pass or fail with the deviation as a percentage. The band runs from 1% to 50%, with fixed points at 1, 5, 10 and 20%.

Two test ports are fitted. The three-terminal jack takes the supplied alligator leads for quick work, and the five-terminal notch takes a Kelvin fixture where the lead resistance would otherwise sit inside the reading. Open and short circuit correction runs from the front panel.

IDEAL FOR

- Goods-in and incoming inspection
- Matching and selecting components
- Electrolytic capacitors, including ESR
- Fault finding and repair
- Laboratory and teaching work

MEASUREMENT RANGES

Range	Accuracy	Resolution	Notes
Measurement ranges · series or parallel equivalent circuit			
Inductance 0.000 μ H to 2000 H	$\pm 0.30\%$ basic	0.001 μ H	Quality factor or reactance alongside
Capacitance 0.000 pF to 20.000 mF	$\pm 0.30\%$ basic	0.001 pF	Electrolytic mode for polarised parts
Resistance and impedance 0.0001 Ω to 20.000 M Ω	$\pm 0.30\%$ basic	0.1 m Ω	ESR available as the second reading
Test conditions			
100 Hz, 120 Hz, 1 kHz, 10 kHz, 40 kHz, 100 kHz	—	—	Six selectable test frequencies
0.3 Vrms and 0.6 Vrms	—	—	Selectable signal level
1, 2 or 4 readings per second	—	—	Slow, medium and fast
Sorting			
Tolerance band 1% to 50%	—	1%	Fixed points at 1, 5, 10 and 20%

Basic accuracy applies at the stated conditions and falls away at the extremes of frequency and impedance, so the figure for a given range is read from the accuracy tables rather than from the basic figure alone. Run the open and short circuit correction before measuring, particularly with extension leads. Series equivalent suits low impedance parts and parallel suits high impedance ones; the choice matters least in the middle.



WHAT'S IN THE BOX

- GPS-132C meter, lithium battery fitted
- Alligator clip test leads with rubber plugs
- Short circuit bar
- Mini USB communication lead
- Power adapter
- Instruction manual and warranty certificate

TEST PORTS · Three-terminal jack for the supplied alligator leads, and a five-terminal notch for four-terminal Kelvin work or for pushing a component straight in. Kelvin clips and SMD tweezers are available separately.

GENERAL SPECIFICATIONS

Code	Item	Part Number
GPS-132C	Handheld LCR meter, six test frequencies to 100 kHz, L/C/R/Z with secondary parameter	500301

MEASURES

Inductance, capacitance, resistance and impedance · second reading from reactance, dissipation, quality factor, phase angle or ESR

BASIC ACCURACY

$\pm 0.30\%$

TEST LEVEL

0.3 Vrms and 0.6 Vrms

ELECTROLYTIC MODE

Fitted, for polarised capacitors

MEASUREMENT SPEED

1, 2 or 4 readings per second

SORTING

Nominal and tolerance from 1% to 50%, fixed points at 1, 5, 10 and 20% · pass or fail shown with the deviation as a percentage

DISPLAY

2.8 in colour TFT · English interface · five digits on the main and the second reading · adjustable brightness

INTERFACE

Mini USB to a computer · SCPI command set

ENVIRONMENT

Operating 0 °C to 40 °C · relative humidity 15% to 85% · pollution degree 2 · indoor use below 2000 m

ACCESSORIES

Kelvin clips and SMD tweezers available separately

RANGES

0.000 μ H to 2000 H · 0.000 pF to 20.000 mF · 0.0001 Ω to 20.000 M Ω

TEST FREQUENCY

100 Hz, 120 Hz, 1 kHz, 10 kHz, 40 kHz and 100 kHz

EQUIVALENT CIRCUIT

Series or parallel, selected on the instrument

RANGING

Automatic, or held at 100 Ω , 1 k Ω , 10 k Ω or 100 k Ω

CORRECTION

Open circuit and short circuit correction from the front panel

RECORDING

Maximum, minimum and average held while measuring · reading hold · relative mode against a reference part

TEST PORTS

Three-terminal jack and five-terminal notch, fitted together

POWER

Rechargeable 5 V 2600 mAh lithium battery, charged over USB · automatic power off, time adjustable

DIMENSIONS

192 × 91 × 52.5 mm · 365 g

WARRANTY

1 year, subject to product registration with GPS LTD · service and calibration available