

1693 Digibridge RLC Testers

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Introduction

The GenRad 1693 Digibridge RLC Tester gives you the best combination of features to meet your most demanding testing requirements. It's a versatile, flexible instrument that replaces guesswork with a full range of programmable test frequencies, speeds, and voltages. An enhanced display facilitates visual acquisition of test data and eliminates costly errors. It's your best bet for the best price and best performance for your production test, incoming inspection, component design and evaluation, process monitoring or dielectric measurement applications.

FEATURES:

- 0.02% Accuracy for RLC, G, Z and Y
- 0.0001 Accuracy for DQ measurements.
- Wide range of measurement parameters
- IEEE-488 Bus and Component Handler Option
- Programmable test frequencies from 12Hz to 200kHz for maximum testing versatility.
- A full, five-digit LED display for RLC ; four-digit readout for D and Q

The 1693 is a sophisticated, microprocessor controlled tester that brings new levels of flexibility, simplicity and accuracy to RLC measurement. It's testing automation at its best with a range of programmable test frequencies and test voltages, as well as automatic limit comparison, automatic parameter selection, remote programmability, automatic binning, and automatic zeroing. The 1693 provides a powerful combination of features designed to maximize productivity in all testing environments. • 0.02% Accuracy for RLC measurements and 0.0001 Accuracy for DQ measurements.

- Programmable test frequencies from 12Hz to 200kHz for maximum testing versatility.
- Programmable test voltages from 5mV to 1.275V permits testing at exact manufacturer-specified voltage levels.
- Full range keyboard-selectable test speeds: Variable up to 50 measurements per second with high speed option, complements automatic handling equipment to maximize throughput.
- Two selectable measurement modes: Continuous and Triggered with averaging available in each ensures measurement flexibility.
- Optional IEEE-488 Bus and Handler Interface enable remote programming and allow the addition of a component handler to optimize throughput.
- Wide choice of measurement parameters allow you to work with familiar units.
- A full, five-digit LED display for RLC measurements and a four-digit readout for D and Q testing, simultaneously display both test results for each measurement, automatically.
- Guarded Kelvin measurement techniques protect measurement integrity.
- Automatic limit comparison and binning ensure fast, mistake-proof sorting of components.
- Automatic self-test and diagnostic check maintain reliable, error-free operation.
- Automatic Binning Summary capability simplifies reporting of measurement results.



USES:

- Meters used for impedance measurements (inductance, capacitance, and resistance) to characterize the performance of a variety of electrical components and materials.
- Test Resistors, Capacitors, Inductors or any type of passive component
- Testing Electronic Components

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1693 Digibridge RLC Features

Measurement Parameters: R/Q, L/Q, C/R, C/D (series or parallel), R/X (series), G/B (parallel), Z/Angle or Y/Angle

Test Frequencies: Over 500 programmable test frequencies (12Hz to 200kHz) 0.01% Accuracy.

Applied Voltage: 5mV to 1.275V (programmable in 5mV steps).

Measurement Speed: Up to 50 measurements/second with High Speed Option.

Measurement Mode: Continuous or Triggered with averaging up to 256 measurements.

Display Format: Dual Display featuring 5 full digit LED for RLCGZY and 4 full digit LED for DQRXB or Angle
Bin Number, Delta RLC, Delta %, Value
Automatically positioned decimal points and minus signs where appropriate.
Individual LED indicators for parameters, units, and measurement conditions.

Bias: Internal 2.0V DC External up to 60V DC

Automatic Functions: Auto ranging with manual hold Auto parameter (RLC) with manual selection

Binning: Thirteen pass bins for RLCGZY Two fail bins, RLCGZY and DQRXB or Angle

Interfaces: IEEE-488/Handler Interface option, High speed Measurement/IEEE-488/Handler Interface option

Ranges:

Parameter	Direct Reading Range	Extended Ranges Ratio and DQ in PPM
R and [Z]	0.00001Ω to 99999kΩ	0.00010Ω to 9999.9GΩ
L	0.00001mH to 99999H	0.00010nH to 9999.9MH
C	0.00001pF to 99999μF	0.00010aF to 9999.9F
G and [Y]	0.00001μS to 99999S	0.00010pS to 9999.9MS
R with C	0.0001Ω to 9999kΩ	not extended
X with R	0.0001Ω to 9999kΩ	not extended
B with G	0.0001μS to 9999S	not extended
D with C	0.0001 to 9999	1 to 9999ppm
Q with R or L	0.0001 to 9999	1 to 9999ppm
Angle	±0.0001 to 180 degrees	±1 to 999 microdegrees

Accuracy: (Primary parameter) Basic RLCGZY ±0.02%.
(Secondary parameter) Basic QD ±0.0002 ±0.0001 in PPM mode.
Basic RXB ±0.02%.
Angle ±0.01°.

Zeroing: Open and short circuit compensation.

General Features:

- Charged Capacitor Protection (1 Joule)
- Keyboard Lock (Store Test Conditions)
- Constant Voltage Mode (25Ω source)
- Programmed Delay (1 to 99999ms)
- DQ in PPM
- Bin Count Summary
- Programmed Integration Time
- Median Value

Dimensions: (w x h x d): 17.25 x 5.625 x 15.160in (438.15 x 142.87 x 385.2mm)

Weight: 14 lbs. (6.4kg) net, 19 lbs. (8.6 kg) shipping.

Accessories Supplied:

- Power Cable
- Bias Cable
- 1689-9602 BNC to BNC Extender Cable with Banana/Alligator Clips
- Instruction Manual

Environmental: Operating: 0°C to +50°C
Storage: -45°C to +75°C
Humidity: <85%

Power: • 90-250V AC • 50 - 60 Hz • 60W max

Ordering Information

1693-9700 1693 RLC Tester

Includes:

4200-0300 Power Cable
1689-9602 BNC to BNC Extender Cable with Banana/Alligator Clips.
1693-0120 Instruction Manual
No P/N Calibration Certificate traceable to NIST

Optional Accessories:

1689-9630 High Speed IEEE/Handler Interface
1657-9600 Banana/Alligator Clip Extender Cable
1658-9620 IEEE/Handler Interface
1689-9600 Remote Test Fixture
7000-05 Chip Component Tweezers
1689-9605 GO/NO GO Remote Test Fixture
1689-9604 Calibration Kit
7000-03 Kelvin Clip Extender Cable
1689-9611 Rack Kit



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