

Digibridge 1750 LCR Tester

USES:

- Production Testing of LCR Components
- Component Screening
- Material Testing
- Quality Assurance Testing
- Component Design and Evaluation

FEATURES:

- Programmable Frequency, 20 Hz to 200 kHz
- 0.1% Basic LCR Measurement Accuracy
- Programmable Test Voltage, 10 mV to 2.5 V
- Current Monitoring to Device Under Test
- Auto Ranging
- Test Setup Storage
- Four-Terminal Kelvin Connections
- IEEE-488 and Handler Interfaces
- Component Sorting
- Open/Short Zeroing

Passive Component Tester

Introduction

The 1750 LCR Digibridge is designed to perform a variety of impedance measurements, with a basic accuracy of 0.1% over a wide frequency range, 20 Hz to 200 kHz. The instrument is capable of measuring primary parameters of inductance (L), capacitance (C), resistance (R), impedance $|Z|$ and secondary parameters of dissipation factor (D), quality factor (Q), resistance (R), and Phase Angle (θ). The 1750 offers a range of features and measurement flexibility making it ideal for applications in product development, incoming inspection, or production line testing.

Description

The 1750 offers a new addition of price/performance within the QuadTech Digibridge family of LCR meters. This versatile unit provides a wide selection of user programmable capabilities for adapting to the most demanding test requirements.

Seven Impedance Parameters Measures and displays two parameters simultaneously to achieve a wide coverage of components.

Programmable Test Conditions 500 programmable test frequencies between 20 Hz and 200 kHz and programmable test voltage from 10 mV to 2.5 V (in 10 mV steps) permits testing at exact specified frequency and voltage. Rapid selection of 43 common test frequencies between 1 kHz and 200 kHz.

Automatic Ranging The instrument automatically selects one of seven ranges for optimum instrument accuracy, thus eliminating any chance of operator error when selecting the measurement range.

Load Correction Substantially improves instrument accuracy by allowing the operator to specify the value of the device under test (known standard) and applying the correction to subsequent measurements. Ideal for repetitive testing of identical devices at like test conditions.

Setup Storage and Recall Test conditions for up to 10 test setups can be stored and recalled from internal memory. This, along with front panel key lockout helps ensure that test procedures can be run the same way every time.

Open/Short Circuit Zeroing The 1750's 4-terminal connection automatically measures stray cable parameters and retains the data to correct ongoing measurements thus ensuring measurement integrity to the device under test.

Component Sorting Automatic limit comparison and binning ensure fast, mistake-proof sorting of components. There are 9 pass bins for Go/No Go testing based on a percentage limit around a user programmed nominal value.

Automated Operation IEEE-488 and handler interfaces are standard on the tester, allowing remote control, programming, and datalogging, plus optimized throughput when using a component handler.



For more detailed specifications, visit
www.quadtech.com

For more information about special purchase,
rent & lease options, call

1-800-253-1230
Fax 1-978-461-4295
Intl. 1-978-461-2100

1750 LCR Digibridge

Primary Measurements:	Display: 5 Digit LED	
	<u>Parameters</u>	<u>Range</u>
	L	0.0001 μ H – 9999.9H
	C	0.0001pF – 9999.9mF
	R	0.0001 Ω - 9999.9M Ω
	Z	0.0001 Ω - 9999.9M Ω
	Accuracy: \pm 0.1% (Basic)	
Secondary Measurements:	Display: 5 Digit LED	
	<u>Parameters</u>	<u>Range</u>
	D	0.0001 – 99999 (D with C)
	Q	0.0001 – 99999 (Q with R or L)
	R	0.0001 Ω - 9999.9M Ω
	θ	-90.00° to +90.00°
	Accuracy: \pm 0.1% for R (Basic)	
	\pm 0.001 for D, Q (Basic)	
	\pm 0.1° for θ (Basic)	
Test Frequency:	Range: 1kHz to 200kHz (43 preset) 20Hz to 200kHz (over 500 programmable) Accuracy: 0.01%	
Test Voltage:	10mV to 2.5V, programmable in 10mV steps	
Measure Rate:	Slow, Medium or Fast (up to 20 meas/sec)	
Measure Mode:	Continuous or Trigger	
DC Bias Voltage:	External: 0 – 35V	
Source Impedance:	25 Ω , 100 Ω , Off (range dependent)	
Averaging:	0 to 10 Measurements	
Ranging:	Auto or Manual Hold (7 ranges)	
Zeroing:	Open and Short Circuit Compensation	
Equivalent Circuit:	Series or Parallel	
Test Setups:	10 Memory Locations with store/recall	
Binning:	9 Pass for Primary Parameter 1 Fail for Primary and Secondary	
Connectors:	Guarded Kelvin Connection, 4 BNC	

General Features:	Deviation Display from Nominal
	% Deviation Display from Nominal
	Current Monitoring to Device Under Test
	Bin Summary Display
	Median Value Mode
	Keypad Lock
	Load Correction
	Built-in Calibration Procedure
Interfaces:	IEEE-488, Handler
Mechanical:	Bench Mount with tilt bail
Dimensions:	(w x h x d): 16.0 x 5.0 x 13.75 in (400 x 125 x 344mm)
Weight:	14.2 lbs (6.5kg) net, 21 lbs (9.5kg) shipping
Environmental:	Operating: 10 to 40 °C
	Humidity: <85%
	Storage: 0 to 50 °C
	Warm-up Time: 30 minutes
Power:	• 90 - 125V AC • 50 or 60Hz
	• 180 - 250V AC • 40W max

Ordering Information

1750 LCR Digibridge

Includes:

Kelvin Clip Leads (1700-03)
Instruction Manual
Power Cord
Fuse
Calibration Certificate Traceable to NIST

Optional Accessories

1700-01 Axial/Radial Component Test Fixture
1700-02 Axial/Radial Remote Test Fixture
1700-03 Kelvin Clip Lead Set to 4 BNC
1700-04 Banana Plug (4) Lead Set to 4 BNC
1700-05 Chip Component Tweezers Lead Set to 4 BNC
1320 DC Bias Current Source
Calibration Data

For more detailed specifications, visit www.quadtech.com
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