

LR Series

USES:

- Production Testing of Contact Resistance of Switches, Relays, Connectors, Cables, and Other Low Resistance Devices
- Testing of Low Value Resistors, Fuses, Squibs, and Heating Elements
- Winding Resistance of Motors, Transformers, Solenoids, and Ballasts
- Conductivity Evaluation in Product Design
- Incoming Inspection and Quality Assurance Testing

FEATURES:

- 1mW - 2MW Measurement Range
- 1mA - 1A Constant Current
- 0.05% Basic Measurement Accuracy
- Measurement Speed to 15/second
- Graphical LCD Display
- Four Terminal Kelvin Connection
- Automatic Zeroing
- RS-232 Interface Standard
- IEEE and Handler Interfaces, Optional
- Automatic Hi/Lo Comparator Limits
- Pass/Fail Sorting (8 Bins)
- Voltage Limiting for Dry Contact Testing
- Keypad Lockout
- Programmable Delay Times

LR2000 Milliohmmeter

A Precision Low Resistance Meter

Introduction

The QuadTech LR2000 Milliohmmeter with its LCD display and menu type front panel programming assures that low resistance measurements on switches, relays, connectors, cables, and other devices can be made quick and easy. With a basic accuracy of 0.05% the instrument offers a wide measurement range from 1 μ ohm to 2Mohms. For remote operation and production applications the unit comes standard with an RS-232 interface, plus IEEE-488 and handler interfaces are available as options. For measurement integrity, contact to the test device is made via a 4-terminal Kelvin connection that incorporates an automatic zeroing function to compensate for lead errors.

Description

Wide Measurement Range: Eight measurement ranges from 20m Ω to 2M Ω with constant current between 1A and 1 μ A. For "dry" contact measurements (those contacts whose resistance can be altered by excessive voltage potential) the LR2000 can be limited to 20mV on selected measurement ranges.

Test Signal: Besides the standard DC test signal, the LR2000 provides a signal reversal mode for eliminating thermal EMF's, and pulsed current mode for minimizing errors caused by device heating.

Precision Measurements: With a basic measurement accuracy of 0.05% the instrument makes for consistent, reliable test results.

Graphical Display: 240 x 64 dot matrix graphical LCD display for user friendly menu programming and display of measured results.

Measurement Rate: Three measure modes of 15, 6 and 1.5 measurements per second with varying degrees of accuracy.

Pass/Fail Testing: Provides a programmable Hi/Lo comparator function in absolute value or %, as well as 8 sorting bins for categorization of components.

Zeroing: An automatic zeroing functions reduces the effects of lead resistance through the front panel 4-terminal Kelvin connection.

Interfaces: For remote control, or adaptation to a production type environment, the LR2000 includes an RS-232 interface standard. An IEEE-488 and Handler interface are available as an option.



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



LR2000 Milliohmmeter Features

Resistance Range:

Range F.S.	Resolution	Accuracy	Test I (Typical)
20m Ω	1 $\mu\Omega$	$\pm(0.1\%$ of rdg + .006m Ω)	1A
200m Ω	10 $\mu\Omega$	$\pm(0.05\%$ of rdg + .06m Ω)	100mA
2 Ω	100 $\mu\Omega$	$\pm(0.05\%$ of rdg + .6m Ω)	10mA
20 Ω	1m Ω	$\pm(0.05\%$ of rdg + 6m Ω)	1mA
200 Ω	10m Ω	$\pm(0.05\%$ of rdg + 40m Ω)	1mA
2k Ω	100m Ω	$\pm(0.05\%$ of rdg + .2 Ω)	1mA
20k Ω	1 Ω	$\pm(0.1\%$ of rdg + 2 Ω)	100 μ A
200k Ω	10 Ω	$\pm(0.2\%$ of rdg + 20 Ω)	10 μ A
2M Ω	100 Ω	$\pm(0.4\%$ of rdg + 200 Ω)	1 μ A

Test Signal:	Modes: DC+, DC-, Pulse+, Pulse-, Pulse+/- and STBY Dry Circuit: Open Circuit Voltage <20mV for 200m Ω , 2 Ω and 20 Ω ranges	Dimensions:	(w x h x d): 12.5 x 4.0 x 13.5in (312.5 x 100.0 x 337.5mm)
Measurement Rate:	Fast: 15 measurements/second Medium: 6 measurements/second Slow: 1.5 measurements/second	Weight:	10.85 lbs. (5kg) net, 15.2 lbs. (7kg) ship
Measurement Mode:	Continuous or Trigger	Environmental:	Specifications: +15°C to +35°C, 75% RH Operating: 10°C to +40°C Storage: 0°C to +50°C Humidity: 10 - 90% RH Pollution Degree 2 Installation Category II
Trigger:	Internal Manual External (IEEE or Handler)	Power:	<ul style="list-style-type: none"> • 90 - 125V AC • 190 - 250V AC • 48 - 62 Hz • 80W max
Delay Times:	Trigger Delay: 5 - 1000ms Measurement Delay: 0 - 100s		
Ranging:	Automatic or Hold Range		
Zeroing:	Short circuit compensation		
Averaging:	1 - 10		
Comparator:	Hi/Lo Limits (Value or %)		
Binning:	Hi/Lo Limits (8 bins in %)		
Indication:	Audible Alarm programmable: HI LO or OFF for Pass or Fail Result		
Display:	240 by 64 dot matrix LCD display		
Setup Storage:	Auto recall on power-up		
Lock:	Keypad Lockout		
Interfaces (Standard):	RS-232		
Interfaces (Optional):	IEEE-488 and Handler		
Test Terminals:	Front: 4 Sheathed Banana & 1 GND		

Ordering Information

LR2000 Milliohmmeter

Includes:

QuadTech P/N	Item
150713	LR2000 Instruction Manual
LR2000-50	Lead Set: 4 Banana Connectors to 2 Kelvin Clips
4200-0300	AC Power Cord
520026/520138	Power Line Fuses (1.0A 250V/0.5A 250V)
	Calibration Certificate Traceable to NIST

Optional Accessories:

	B/A Calibration Data
LR2000-50	Kelvin Clip Lead Set
700171	IEEE-488/Handler Interface

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