

High Accuracy Micro-Ohmmeter

LOM-510A p. 1 of 2

Features and accessories to assure that very low resistance measurements are accomplished accurately, easily, and economically.

- 1 $\mu\Omega$ resolution
- 0.02% basic accuracy
- Digital output
- Four measurement modes
- Auto-zero switched dc mode
- Probes for chips and traces

HIGH PERFORMANCE LOW RESISTANCE MEASUREMENT

The **LOM-510A** has 4½ digits, 0.02% basic accuracy and 1 $\mu\Omega$ resolution. Its 4-terminal measurement technique eliminates lead resistance errors and 80 dB of ac noise rejection provides rock-steady readings even in noisy locations. The unit comes with rugged 4-terminal test clips and a large selection of optional probes, clips and fixtures allowing attachment to any low-resistance unknown.

Switched dc Mode:

Allows measurement of switch contacts, welds, shunts, PC board tracks and other primarily resistive elements. Thermal emf effects are eliminated.

Constant dc Mode:

Suitable for measuring the resistance of inductive components such as coils or transformers.

Pulsed Mode:

Provides low drive current to allow measurements of fuses, thermistors, and other thermally sensitive devices.

Dry Circuit:

Assures that oxides and film contacts are not punctured. The **Dry Circuit Mode** limits the open circuit voltage to 50 mV. The **Model LOM-510A/20** limits the open circuit voltage to 20 mV.



Model **LOM-510A** Micro-ohmmeter shown with **LOM-501C** Standard 4-Terminal Kelvin clips

SPECIFICATIONS LOM-510A MICRO-OHMMETER

Accuracy:

Model	(SW) (Switched dc)	DC (Continuous dc)	Pulsed Mode
LOM-510A	0.02% + 2 counts + 2 $\mu\Omega$	0.04% + 2 counts + 2 $\mu\Omega$	0.02% + 4 counts + 2 $\mu\Omega$

Range (Full Scale)	Drive	Max Dissipation DC	SW	Resolution
19.999 m Ω	1 A	20 mW	5.0 mW	1 $\mu\Omega$
199.99 m Ω	.1 A	2.0 mW	.50 mW	10 $\mu\Omega$
1.9999 Ω	10 mA	.2 mW	.05 mW	100 $\mu\Omega$
19.999 Ω	1 mA	.02 mW	5 μ W	1 m Ω
199.99 Ω	.1 mA	.002 mW	0.5 μ W	10 m Ω

Zero Adjust: Active only in **DC** (Continuous dc) mode.

Noise Rejection: 80 dB for **SW** (Switched dc) and **Pulsed Mode**; 60 dB for **DC** (Continuous dc) mode.

SW (Switched dc) **Mode:** Current switched on for 166 ms, then off for 500 ms (25% duty cycle).

Pulsed Mode: One cycle of **SW** (Switched dc) mode; enabled by shorting two contacts on rear panel connector.

Display: 4½ digit, 0.5 inch, red LED display.

Display Overrange Indication: Flashes for **DC** (Continuous dc) and **SW** (Switched dc); blanks in **Pulsed mode**.

Measurement Rate: 1.5 readings/second.

Connections to Unknown: 4-terminal Kelvin leads with shield.

Outputs: 5 BCD digits for value and polarity; Pulsed Mode Control lines; power supply lines; 25 pin "D" connector.

Warm up time: 1 minute to rated accuracy.

Accuracy vs. Temperature: Stated accuracy applies over an ambient temperature range of 18 to 27 °C. Error doubles over the range of 10 to 40 °C.

Accessories Supplied: **LOM-501** test clips.

Power Requirements: 105-125 V or 210-250 V, 50-60 Hz, 30 W max.

Dimensions: 22.9 cm W x 5.1 cm H x 27.9 cm D (9" x 2" x 11")

Weight: 2.7 kg (6 lb).

LOM-530 (CALIBRATION KIT FOR LOM-510A)

	Stability	Max Power	TempCo	Power Coefficient
0.01 Ω	50 ppm/year	2 W	20 ppm/°C	0.1 ppm/mW
0.1 Ω	50 ppm/year	1 W	20 ppm/°C	0.1 ppm/mW
1 Ω	20 ppm/year	0.25 W	10 ppm/°C	0.5 ppm/mW
15 Ω	10 ppm/year	0.1 W	3 ppm/°C	0.5 ppm/mW
150 Ω	10 ppm/year	0.1 W	1 ppm/°C	0.5 ppm/mW

Temperature Range: 15° to 30°C

Storage Range: 0°C to 40°C



New

A convenient single unit containing a complete set of (5) working standard grade resistors for complete calibration of the micro-ohmmeter.



IET LABS, INC. in the **GenRad** Tradition
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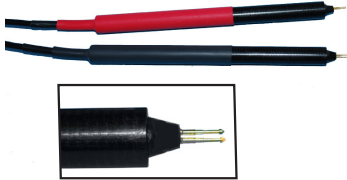



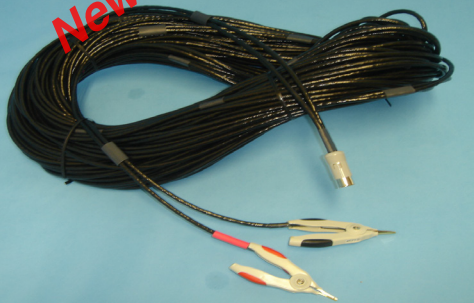
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LOM Catalog Pages/01-06-11

High Accuracy Micro-Ohmmeter

LOM-510A Series p. 2 of 2

ACCESSORIES

<p>4-Terminal General Purpose Kelvin Clips Cable Assembly: LOM-501C</p>  <p>Suitable for connection in most applications</p> <p>Versions</p> <ul style="list-style-type: none"> LOM-501C - 1m (39") LOM-501C-2m - 2m (79") LOM-502C - clips only LOM-501 U - unterminated cable <ul style="list-style-type: none"> • Jaw-Opening - 3/8" • Miniature Tips • Rugged 	<p>4-Terminal Kelvin Microprobes Cable Assembly: LOM-506</p>  <p>Suitable for:</p> <ul style="list-style-type: none"> - chips - circuit board components - conductor traces - inside of connectors • Fine-point, spring-loaded tips (1.27 mm) 	<p>4-Terminal Heavy Duty Kelvin Clips Cable Assembly: LOM-504</p>  <p>Suitable for:</p> <ul style="list-style-type: none"> - large bushings - welded and bolted joints - rails and pipes - transformers and motors - fuses - power distribution buses • Jaw opening - 1.75" • Lead Length - 3.7 m (12')
<p>Wide Opening Kelvin Clips Cable Assembly: LOM-501W</p>  <p>Suitable for</p> <ul style="list-style-type: none"> • Connecting to dual binding posts (0.75" apart) • Connecting to individual binding posts 	<p>Test Fixture for Discrete Components: LOM-501TF</p>  <p>Suitable for:</p> <ul style="list-style-type: none"> • Radial or axial leads • Selection and binning • Reeled components 	
<p>LOM-501-XL</p> <p>Cable Options: Extra-Long cables for remote testing -- up to 50 m</p> <p>For applications where the device under test may be in an outdoors or distant location, and the LOM-510 must be kept in an indoors environment</p> 		

ORDERING INFORMATION

<p>LOM-510A-110 Digital Micro-ohmmeter LOM-501C test clips 110 Vac operation</p> <p>LOM-510A-220 Digital Micro-ohmmeter LOM-501C test clips 220 Vac operation</p> <p>LOM-530 Calibration Kit for LOM 510-A</p> <p>LOM-501C Kelvin Test Clips Cable Assembly (pair, length 1 meter)</p> <p>LOM-501C-2m Kelvin Test Clips Cable Assembly (pair, length 2 meters)</p>	<p>LOM-501W Kelvin Test Clips Cable Assembly (wide)</p> <p>LOM-502C Kelvin Test Clips, without cable (pair)</p> <p>LOM-503 Kelvin Test Clips Cable Assembly, E-Z Hooks (length 1 meter)</p> <p>LOM-504 Kelvin Test Clips Cable Assembly, Heavy Duty, 2 inch jaws pair, (length 1 meter)</p> <p>LOM-506 Kelvin Microprobes Cable Assembly (pair, length 1 meter)</p> <p>LOM-506-1 Replacement Microprobes, set of 4</p> <p>LOM-501TF Test Fixture</p> <p>LOM-501-XL Extra-Long cable for remote testing (up to 50 m)</p>
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