

LOM-510A

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

Features:

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

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.

SPECIFICATIONS

Range (Full Scale)	Drive	Max Dissipation		Resolution
		DC	SW	
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

Accuracy:

SW (switched dc): 0.02% + 2 counts + 2 $\mu\Omega$
dc (continuous dc): 0.04% + 2 counts + 2 $\mu\Omega$
Pulsed mode: 0.02% + 4 counts + 2 $\mu\Omega$

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.

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

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
 internally settable 50-60 Hz
 30 W max

Mechanical:

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


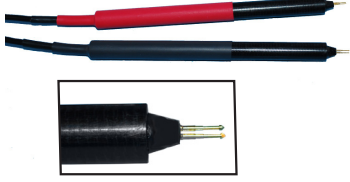


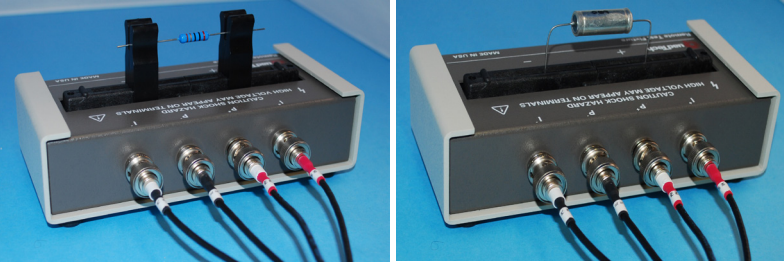

Temperature Range: 15° to 30°C
 Storage Range: 0°C to 40°C



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



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) from the side or from the top • 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

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

