LOM-510A

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

Features:

- 1 μΩ resolution
- ± 0.02% basic accuracy
- Digital output
- Four measurement modes
- Auto-zero switched dc mode
- Probes for chips and traces
- New switch design, improves reliability
- New external voltage selector switch
- New IEC inlet adapter with fuse

The **LOM-510A** has 4½ digits, 0.02% basic accuracy and 1 μΩ 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

Range (Full Scale)	Drive	Max Dissipation DC	Max Dissipation SW	Resolution
19.999 mΩ	1 A	20 mW	5.0 mW	1 μΩ
199.99 mΩ	.1 A	2.0 mW	.50 mW	10 μΩ
1.9999 Ω	10 mA	.2 mW	.05 mW	100 μΩ
19.999 Ω	1 mA	.02 mW	5 μW	1 mΩ
199.99 Ω	.1 mA	.002 mW	0.5 μW	10 mΩ

Accuracy:
SW (switched dc):
±(0.02% + 2 counts +2 μΩ)
dc (continuous dc):
Typically ±(0.04% + 2 counts + 2 μΩ)
Pulsed mode: ± (0.02% + 4 counts + 2 μΩ)

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 Vac or 210-250 Vac; 50-60 Hz selectable on rear panel
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

4-Terminal General Purpose Kelvin Clips Cable Assembly: LOM-501C

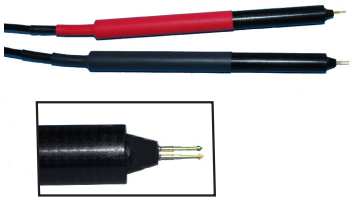
Suitable for connection in most applications

Versions

LOM-501C - *1m (39")*
LOM-501C-2m - *2m (79")*
LOM-502C - *clips only*
LOM-501 U - *unterminated cable*

- Jaw-Opening - 3/8"
- Miniature Tips
- Rugged

4-Terminal Kelvin Microprobes Cable Assembly: LOM-506

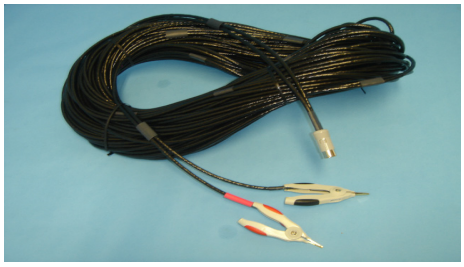


Suitable for:

- chips
- circuit board components
- conductor traces
- inside of connectors

- Fine-point, spring-loaded tips (1.27 mm)

LOM-501-XL



Cable Options:

Extra-Long cables for remote testing -- up to 50 m

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

Wide Opening Kelvin Clips Cable Assembly: LOM-501W

Suitable for

- Connecting to dual binding posts (0.75" apart) from the side or from the top
- Connecting to individual binding posts

Test Fixture for Discrete Components: LOM-501TF

Suitable for:

- Radial or axial leads
- Selection and binning
- Reeled components

ORDERING INFORMATION

LOM-510A	Digital Micro-ohmmeter LOM-501C test clips
LOM-530	Calibration Kit for LOM 510-A
LOM-501C	Kelvin Test Clips Cable Assembly (pair, length 1 meter)
LOM-501C-2m	Kelvin Test Clips Cable Assembly (pair, length 2 meters)
LOM-501W	Kelvin Test Clips Cable Assembly (wide)
LOM-502C	Kelvin Test Clips, without connector (pair)
LOM-503	Kelvin Test Clips Cable Assembly, E-Z Hooks (length 1 meter)
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)