

LRMS 5200A

Digital Micro Ohm Meter



Low Resistance Measurement System



Monolithic Industries Inc.

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- Measures from 2k ohms down to .1 micro-ohm (.0000001 ohm)
- Eight decade auto-range or manual operating mode
- Fast 2-hour recharge with internal line operated power supplies
- Built-in temperature compensation for copper, aluminum or special alloys
- Data storage and retrieval capabilities
- High compliance active current loops for inductive component measurements (transformers, coils, etc.)
- Special current mode for fast measurements of large transformers
- Backlit main display for low ambient lighting

The LRMS 5200A is a digital micro ohm meter that is used to measure the resistance of field coils, transformers, 3 phase winding balance, armatures, riser connections, circuit breakers, bus-bar connections and weld integrity.

The LRMS 5200A is very easy to use due to its' auto-range feature. Just attach the Kelvin clips to the item being tested and read the results. The LRMS 5200A has many additional capabilities for those applications requiring more complexity such as temperature compensation, limit testing, thermal EMF elimination, etc..

The LRMS 5200A is a micro processor controlled instrument that offers features and capabilities not currently found in similarly priced meters. One such capability is the TEMPCO function which allows automatic temperature compensation to 20°C wire tables for the measured resistance. Another is the LIMITS function that allows GO/NOGO testing of production components or armatures. These are only two of the LRMS 5200A special capabilities.

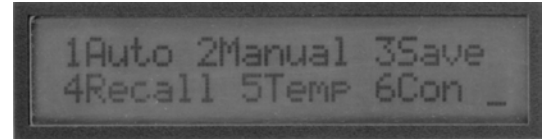
The LRMS can be operated in three different positions: horizontal, vertical or by using the flip down bail. The instrument is housed in a rugged 16 gauge steel case. The removable front cover is used for cable and lead storage. The four feet located on the rear of the unit are used for storing the power cord.



LRMS 5200A

The LRMS uses a microprocessor menu driven method to display operating modes (auto-range/manual), range and current as well as prompts for the operator. Operator prompting reduces the need to constantly refer to the instruction manual for help. The various functions of the LRMS such as Auto-range, Manual, Limits, Tempcos and Data storage are selected and entered through the front panel keypad.

The actual resistance value measured is displayed on the numeric readout. The temperature measurement is displayed on the alpha-numeric readout and can be selected to display Fahrenheit or Celsius. This allows the temperature and resistance to be displayed simultaneously.



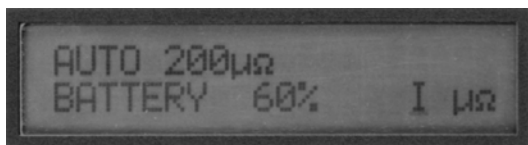
Menu Selections

The LRMS 5200A is capable of storing resistance measurements and the temperature at which these measurements were taken. The LRMS can store 720 such measurements in four different job storage areas (180/area). Measurements are stored in the internal battery backed up memory and can be recalled at anytime. These storage areas are handy for field work, preventative maintenance and engineering.

The operating conditions (range, tempco, limits, etc.) of the LRMS can be assigned a number and saved in any one of 32 setup locations. Setups are a convenient method of storing operating conditions that may be used repetitively by OEM's or preventative maintenance personnel. These setups can be recalled at anytime by the operator thru the recall feature of the LRMS.



Measurement/Storage



Battery Display

The LRMS 5200A is fully portable and utilizes a built-in sealed lead acid battery for power. The battery capacity is monitored and conveniently displayed. The unit also contains an internal line operated power supply that is used to recharge the internal battery as well as supply power for measurements. This dual usage power supply eliminates the dead battery problem and is active anytime the LRMS is plugged into the line. The LRMS will recharge to about 90% capacity in two hours or less. To conserve battery life, the LRMS will automatically shut itself off after about 10 minutes of non use.

The internal memory is backed up by a 3V lithium cell which has a nominal life of five years. Provisions have been made that allow changing of this battery with no loss of data.



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LRMS 5200A Specifications

Range	Resolution	Normal Mode Current	Transformer Mode Current
200 micro-ohm	$\pm .0000001$ ohm	5 amps	5amps
2 milli-ohm	$\pm .000001$ ohm	5 amps	5 amps
20 milli-ohm	$\pm .00001$ ohm	1 amp	5 amps
200 milli-ohm	$\pm .0001$ ohm	1 amp	5 amps
2 ohm	$\pm .001$ ohm	100 ma	1 amp
20 ohm	$\pm .01$ ohm	10 ma	100 ma
200 ohm	$\pm .1$ ohm	1ma	10 ma
2k ohm	± 1 ohm	.1 ma	1 ma

Accuracy:	.15% ± 1 digit @ 25°C $\pm 10^\circ\text{C}$.25% of reading ± 1 digit 0-50°C
Measurement type:	Four wire Kelvin
Inductive compliance voltage:	6v
Input protection:	5kv transient all inputs. Internally replaceable fuses. All inputs protected to each other and to LRMS case
Maximum sample rate:	7.5 samples/sec
Auto ranging delay:	Approximately .3 sec/decade
Temperature range:	Operating 0-50°C Storage -40 to 65°C
Pyrometer range:	-40 to 150°C .1°C or F resolution
Pyrometer readout:	Fahrenheit or Celsius selectable
Readouts:	40 character alphanumeric (backlit) LCD 4 digit LCD
Terminals:	Gold plated 4 way banana posts
Power requirements:	120vac (220vac available) Internal rechargeable 6v sealed lead acid Internal 3v lithium cell
Construction:	All steel case and cover

