

## True DC Micro Ohmmeter



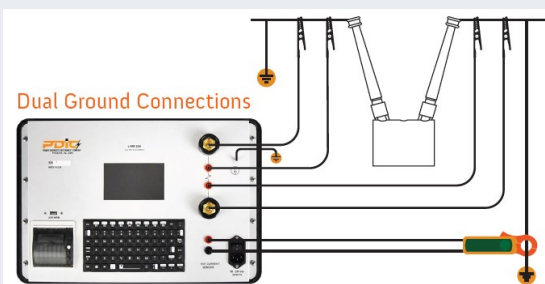
- Continuous 0 - 200 A DC output
- Full-size keyboard, Touch enabled color display and built-in thermal printer
- Dual grounding option for enhanced safety
- Internal Storage of 150 test records with up to 75 readings
- Ability to export test results to PDF and Excel format
- Settable rise and fall time of test current to avoid mal operation of associated relays
- Field portable rugged housing

### Introduction:

The LRM 200 is a microprocessor-based, true DC micro-ohmmeter designed to test the contact resistance of circuit breaker contacts, switchgear, and bus bar joints. It is the instrument every test technician needs to have to maintain circuit breakers, switch gear and busbars. The LRM 200 is designed to meet the IEEE C57.09-1999 standard's requirements for testing circuit breaker contact resistance. LRM 200 also meets the requirements of IEC 6227-100 (For GIS), IEC6227-200 (For HV switch yard). The LRM 200's wide measuring range is 1 micro Ohm to 5 Ohms with 0.1 micro-ohm resolution with a current range of 10 A to 200 A. The LRM 200 injects a true DC current through the contacts under test and measures the contact resistance.

### Dual Ground Mode Test:

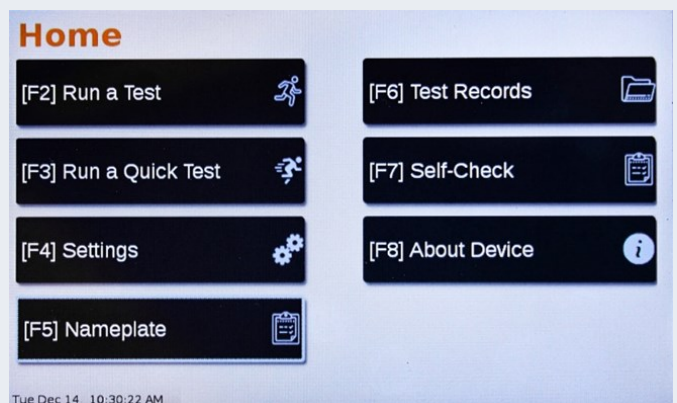
During the test, only one end of the Circuit breaker is grounded for accurate measurement. The LRM 200 can perform CB testing in Dual Ground mode. In Dual Ground mode, both sides of the CB are grounded. Some current is diverted to the ground via a ground cable. An external current sensor connected to the ground cable provides input to the LRM 200 which eliminates the effect of the diverted current and produces accurate re-



As the rise and fall time is configurable for each test, no transients are induced in the associated apparatus such as current transformers. This avoids maloperation of the connected relays to the current transformers. LRM 200 provides audible signal when test is in progress. LRM 200 provides continuous dc output without overheating. Built in thermal sensor protects LRM 200 overheating if the temperature excess 85<sup>0</sup> C

### User Interface

The unit's back-lit color LCD touchscreen (800 x 480 pixels) is viewable in bright sunlight and low-light and provides an intuitive menu structure where running a test is just few taps away. The full-sized industrial keyboard makes data entry quite easy for information such as nameplate and setting information.



### Test Records and Built-in Thermal Printer

The LRM 200 can store up to 150 records of 75 readings each. These results can be transferred to a USB flash drive or to a computer directly via the USB PC interface. The LRM200 features a built-in 2.0" thermal printer for local printout of results in the field.

**Technical Specifications : LRM 200**

<b>Input Power</b>	
Operating Voltage	90 – 240 Vac, 50/60 Hz
Measuring Method	IEEE C57.09-1999
<b>Typical Accuracy</b>	
Resistance Reading Range	1 $\mu\Omega$ – 5 $\Omega$
Test Current Range	1 -200 A in 1 A steps (Thermally protected DC power supply)
Accuracy	$\pm(0.15\%$ of reading + 0.15% FS) at test current of 10–200 A
Resolution	1 $\mu\Omega$ – 999.9 $\mu\Omega$ : 0.1 $\mu\Omega$
	1.000 m $\Omega$ – 9.999 m $\Omega$ : 1 $\mu\Omega$
	10.00 m $\Omega$ – 99.99 m $\Omega$ : 10 $\mu\Omega$
	100.0 m $\Omega$ – 999.9 m $\Omega$ : 0.1 m $\Omega$
<b>USER INTERFACE</b>	
Printer	Built-in 2" wide thermal printer
Display & keyboard	Color touch-screen LCD (800 x 480 pixels) & "QWERTY"-style keyboard
Computer Interface & software	One USB PC interface for downloading test records and generate report via USB 2.0
<b>SAFETY STANDARD</b>	IEC/EN 61010-1
<b>DATA STORAGE AND ANALYSIS</b>	
Internal Test Record Storage	Up to 150 records with max 75 results per record (8,000 test records)
External Test Record Storage	USB Flash drive interface to copy test records and firmware updates
<b>Operating/Storage Temperature</b>	
Temperature	Operating: -10°C to +50°C (+15°F to +122°F) Storage: -30°C to +70°C (-22°F to +158°F)
Humidity	90% RH @ +40°C (+104°F)
<b>Physical Specifications</b>	
Dimensions	18"W x 7"H x 15" D (45.7 cm x 17.8 cm x 38.1 cm)
Weight	19.6 Lbs. (8.9 Kgs)
<b>Test Cables</b>	2 x 30' (10 m) high current cable , 2 x 30' (10 m) voltage sense cable, power cord, USB cable, 10' ground cable and one cable bag