



100 Amp Digital Microhmmeter

Model MRM-100

- Lightweight and ruggedly constructed for years of field use
- Large, easy to read VFD screen display
- Built-in printer



TESTING APPLICATIONS

The MRM-100 uses a low voltage, high current power supply to run a user-defined test current of between 10 Amps to 105 Amps. The MRM-100 is used to test circuit breaker contact resistance, or any application where low resistance current measurement up to just over 100 A is required.

SAFETY and DESIGN FEATURES

- Microprocessor Based—Allows for user interface to easily program, read, store, and print tests
- Wide Range of Measurements—Allows user to vary test current from 10 Amps to 105 Amps and measure 1 micro-ohm to 240 milli-ohms
- Battery-backed RAM to store readings; has 10-year life
- Full Keypad—Allows easy entry of test descriptions and parameters
- 4-line by 20 character backlit LCD
- Cable/Accessory Bag



DESCRIPTION

The MRM-100 uses a two-voltmeter method where each voltage reading implements a four-wire Kelvin connection. One voltmeter monitors the voltage across a known, highly stable shunt that passes the test current through it, while the other voltmeter monitors the voltage across the unit under test. A test current is then applied (see ANSI C37.09 and IEC 62771-100 for test current requirements). This current is ramped up, held for a period of time and then ramped down. While the current is relatively constant, the voltages across the known resistance and unit under test are amplified and filtered. The readings are sampled several times by analog to digital converters to reduce any noise, and processed by a microcontroller. The microcontroller calculates the ratio between the test current and sensed voltage to determine the resistance. The micro-ohmmeter is designed to test resistances of 1 micro-Ohm to 240 milli-Ohms. Test results can be printed out via the built-in printer.

INPUT	120 VAC, 60 Hz or 230 VAC, 50/60 Hz 5 A		
RESISTANCE MEASUREMENT RANGE	1 micro-ohm to 240 milli-ohms non-inductive		
TEST CURRENT	10 to 105 Amps, selectable in 1 Amp steps		
UNCERTAINTY	+1% of reading, + 0.4 $\mu\Omega$ at 100 Amps or +4 $\mu\Omega$ at 10 Amps		
RESOLUTION	1 $\mu\Omega$ to 199 $\mu\Omega$: 0.1 $\mu\Omega$ 200 $\mu\Omega$ to 1999 $\mu\Omega$: 1.0 $\mu\Omega$ 2.00 m Ω to 19.99 m Ω : 0.01 m Ω 20.0 m Ω to 240.0 m Ω : 0.1 m Ω		
KEYPAD	10 number keys, 26 letter keys, 14 function keys		
ENVIRONMENT	Operating	-7 to 45°C (19 to 113°F)	
	Storage	-20 to 57°C (-4 to 135°F)	
	Humidity	<90%, non-condensing	
CABLES INCLUDED	Input Power	6' (2 m)	
	Output/Sense	30' (9 m) (2)	
DIMENSIONS & WEIGHT	Length	16.5" (419 mm)	
	Width	15.25" (387 mm)	
	Height	11.25" (286 mm)	
	Weight	28 lbs (13 kgs)	
SHIPPING SIZE	Length	MRM-100	Cables
		21" (533 mm)	21" (533 mm)
	Width	21" (533 mm)	21" (533 mm)
		Height	16" (406 mm)
	Weight	35 lbs (16 kgs)	24 lbs (11 kgs)

High Voltage • High Current • High Power Test Systems and Components

ISO 9001
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