

Programmable Digital Micro-Ohmmeter: Model 4300E

High Performance for Ultra-Low Resistance Measurement

- User Selectable Current up to 10Amps
- Charging Inductor Mode for Rapid Settling of Inductive Loads
- Safety Disconnect Status L.E.D.
- Test Current Control with Optional Timer Mode
- Selectable Voltage Sensitivity: 1μV, 10μV, 100μV
- 18 Measurement Ranges for Optimal Test Conditions
- Automatic Temperature Compensation (TCM)
- Timed Current Mode for Automated & Repeatable Measurements
- Hi-Lo Comparator (HLC) for Pass/Fail Sorting
- Run/Hold and Peak Detector



The **Model 4300E Programmable Digital Micro-Ohmmeter** is designed for precise measurement of ultra-low resistance in inductive devices such as motors, transformers, fuses, connectors, breakers, and bonded joints. Optimized for fast and stable testing, the 4300E provides three voltage ranges (20 mV, 200 mV, 2 V) and six current ranges (0.1 mA to 10 A), delivering exceptional flexibility across a wide range of applications.

Advanced measurement modes include **Temperature Compensated Measurement (TCM)** for accurate resistance normalization, a **Hi-Lo Comparator (HLC)** for automated pass/fail testing, and **Charging Inductor Mode** to significantly reduce settling time when testing highly inductive loads. A robust solid-state protection design safeguards the instrument against up to 500 A of induced current.

The 4300E also introduces a **Timed Current Mode**, allowing users to apply test current for a defined duration and automatically capture the final measurement—ideal for repeatable testing and automated systems. Remote operation is supported via standard interfaces including **RS-232 and USB**, with optional **Ethernet connectivity** for integration into production environments.

Range Specifications

#	Range	Test Voltage	Full Scale	Resolution	Test Current ¹	Accuracy ² (± % reading ± Ω)	Temperature Coefficient ³	TCM Mode Accuracy ⁴ (± % reading ± % ΔT)	¹ Current source is ±1% absolute accuracy ² Accuracy specs are valid following a 30 minute warm-up at an ambient temperature between 22°C and 28°C, and include the effects of line voltage variations within the allowed range. ³ Temp. Coefficient specified for temp. ranges from 5°C to 21°C and 29°C to 50°C. ⁴ Accuracy specifications valid following a 30 minute warm-up at an ambient temperature between 21°C and 29°C.
1	2mΩ	20mV	2.0000mΩ	100nΩ	10A	± .06 ± .0006m	±50ppm/°C	± .11 ± .0006m	
2	20mΩ	20mV	20.000mΩ	1μΩ	1A	± .04 ± .006m	±50ppm/°C	± .09 ± .006m	
3	200mΩ	20mV	200.00mΩ	10μΩ	0.1A	± .04 ± .06m	±50ppm/°C	± .09 ± .06m	
4	2Ω	20mV	2.0000Ω	100μΩ	10mA	± .04 ± .0006	±50ppm/°C	± .09 ± .0006	
5	20Ω	20mV	20.000Ω	1mΩ	1mA	± .04 ± .006	±50ppm/°C	± .09 ± .006	
6	200Ω	20mV	200.00Ω	10mΩ	0.1mA	± .04 ± .06	±50ppm/°C	± .09 ± .06	
7	20mΩ	200mV	20.000mΩ	1μΩ	10A	± .06 ± .003m	±50ppm/°C	± .11 ± .003m	
8	200mΩ	200mV	200.00mΩ	10μΩ	1A	± .04 ± .03m	±50ppm/°C	± .09 ± .03m	
9	2Ω	200mV	2.0000Ω	100μΩ	0.1A	± .04 ± .0003	±50ppm/°C	± .09 ± .0003	
10	20Ω	200mV	20.000Ω	1mΩ	10mA	± .04 ± .003	±50ppm/°C	± .09 ± .003	
11	200Ω	200mV	200.00Ω	10mΩ	1mA	± .04 ± .03	±50ppm/°C	± .09 ± .03	
12	2kΩ	200mV	2.0000kΩ	100mΩ	0.1mA	± .04 ± .0003k	±50ppm/°C	± .09 ± .0003k	
13	200mΩ	2V	200.00mΩ	10μΩ	10A	± .06 ± .03m	±50ppm/°C	± .11 ± .03m	
14	2Ω	2V	2.0000Ω	100μΩ	1A	± .04 ± .0003	±50ppm/°C	± .09 ± .0003	
15	20Ω	2V	20.000Ω	1mΩ	0.1A	± .04 ± .003	±50ppm/°C	± .09 ± .003	
16	200Ω	2V	200.00Ω	10mΩ	10mA	± .04 ± .03	±50ppm/°C	± .09 ± .03	
17	2kΩ	2V	2.0000kΩ	100mΩ	1mA	± .04 ± .0003k	±50ppm/°C	± .09 ± .0003k	
18	20kΩ	2V	20.000kΩ	1Ω	0.1mA	± .04 ± .003k	±50ppm/°C	± .09 ± .003k	

General Specifications

Display Type:	High contrast OLED with auto dimming
Overload Indication:	O.L.
Conversion Rate:	10 readings per second
Terminal Configuration:	4-Wire Kelvin
Max Kick-Back Protection:	500A Peak Induced Current
Compl. Voltage (Normal Mode):	7.5 VDC Nominal @ 10A resistive
Compl. Voltage (Charging Inductor Mode):	20 VDC when indicator is on
Test Current Polarity:	Positive (flows High to Low)
Open Circuit Voltage (Test Current Off):	< 20mV

Power

Power Requirements:	115VAC or 230VAC ±10%
Temperature	
Operating Temp. Range:	0°C to 50°C
Storage Temp. Range:	-40°C to 85°C
Humidity:	80% RH max @ 40°C (non-condensing)

Physical Specifications

Width Depth Height:	17" / 43cm 14.5" / 36.8cm 4" / 10cm
Weight:	20lbs / 9 kg net;



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