4300C Programmable Digital Micro-Ohmmeter

Highly Accurate, Built for Inductive Loads

The Model 4300C Programmable Digital Micro-Ohmmeter is perfect for tackling the ultra-low resistance testing requirements associated with motors, transformers, coils, and breakers. With a focus on rapid testing of inductive loads, this instrument covers 3 voltage ranges (20mV, 200mV, 2V) and 6 current ranges (.1mA, 1mA, 10mA, .1A, 1A, 10A). Multiple selectable modes allow for a better fit to your application, resulting in more accurate and agile data collection. Available measurement modes on the 4300C include Temperature Compensation, Hi-Lo Comparator, and Charging Inductor for reducing settling time by a factor of 5:1. A solid-state "Crowbar" design provides front end protection for up to 500 amps of induced current. Additionally, this unit offers remote controllability via RS-232, USB, and GPIB/IEEE ports on the rear of the unit.

General Specifications

Display Type: 5 digit VFD Flashes

Overload Indication: OVERLOAD

Conversion Rate: 45 readings per second

Terminal Configuration: 4-Wire Kelvin

Max Kick-Back Protection: 500A Peak Induced Current

Compl. Voltage (Normal Mode): 7.5VDC Nominal @ 10A resistive

Compl. Voltage (Charging Inductor Mode): 20VDC 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: 17in / 43cm

Depth: 11.5in / 29.5cm

Height: 4in / 10cm 20

Weight: 25 lbs / 9 kg





#	Range	Test Voltage	Full Scale	Resolution	Test Current ¹	Accuracy ² (± % reading ± Ω)	Temperature Coefficient ³	TCM Mode Accuracy ⁴ (± % reading ± % ΔT)
1	$2 m \Omega$	20mV	$2.0000 m\Omega$	100nΩ	10A	± .06 ± .0006m	±50ppm/°C	± .11 ± .0006m
2	$20 m\Omega$	20mV	$20.000 m\Omega$	1μΩ	1A	± .04 ± .006m	±50ppm/°C	± .09 ± .006m
3	$200 m\Omega$	20mV	$200.00 \text{m}\Omega$	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	$1 m\Omega$	1mA	± .04 ± .006	±50ppm/°C	±.09 ±.006
6	200Ω	20mV	200.00Ω	$10 m\Omega$	0.1mA	± .04 ± .06	±50ppm/°C	± .09 ± .06
7	$20 m\Omega$	200mV	$20.000 m\Omega$	1μΩ	10A	± .06 ± .003m	±50ppm/°C	± .11 ± .003m
8	$200 m\Omega$	200mV	$200.00 \text{m}\Omega$	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	$10 m\Omega$	1mA	± .04 ± .03	±50ppm/°C	± .09 ± .03
12	2kΩ	200mV	2.0000kΩ	$100 m\Omega$	0.1mA	± .04 ± .0003k	±50ppm/°C	± .09 ± .0003k
13	$200 \text{m}\Omega$	2V	$200.00 m\Omega$	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	$10 m\Omega$	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

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.