2100 6½-Digit USB Digital Multimeter

Specifications

DC CHARACTERISTICS: Accuracy[1] ±(% of reading + % of range)

Function	Range	Resolution	Input Resistance	1 Year, 23°C ±5°C
DC Voltage	100.0000 mV	0.1 µV	>10 GΩ	0.0055 + 0.0040
	1.000000 V	1.0 µV	>10 GΩ	0.0045 + 0.0008
	10.00000 V	10 µV	>10 GΩ	0.0038 + 0.0006
	100.0000 V	100 µV	10 MΩ	0.0050 + 0.0007
	1000.000 V	1 mV	10 MΩ	0.0055 + 0.0010

Function	Range	Resolution	Shunt Resistance	1 Year, 23°C ±5°C
DCI (DC Current)	10.00000 mA	10 nA	5.1 Ω	0.055 + 0.025
	100.0000 mA	100 nA	5.1 Ω	0.055 + 0.006
	1.000000 A	1 µA	0.1 Ω	0.120 + 0.015
	3.00000 A	10 µA	0.1 Ω	0.150 + 0.025

Function	Range	Resolution	Test Current	1 Year, 23°C ±5°C
Resistance[2]	100.0000 Ω	100 µΩ	1 mA	0.015 + 0.005
	1.000000 kΩ	1 mΩ	1 mA	0.015 + 0.002
	10.00000 kΩ	10 mΩ	100 µA	0.013 + 0.002
	100.0000 kΩ	100 mΩ	10 µA	0.015 + 0.002
	1.000000 MΩ	1 Ω	5 µA	0.017 + 0.002
	10.00000 MΩ	10 Ω	500 nA	0.045 + 0.002
	100.0000 MΩ	100 Ω	500 nA||10 MΩ	1.00 + 0.020
Diode Test	1.0000 V	10 µV	1 mA	0.040 + 0.020
Continuity	1000.00 Ω	10 mΩ	1 mA	0.024 + 0.030

DC NOTES

1. Specifications valid after two hour warm-up.
   a. ADC set for continuous trigger operation.
   b. Input bias current <30pA at 25°C.
   c. Input protection 1000V all ranges (2W input).
   d. Measurement rate set to 1 PLC.
2. Specifications for 4W ohms mode. For 2W ohms, use zero null or subtract lead resistance from displayed reading.
   a. Maximum lead resistance 10% of range per lead for 100Ω and 1kΩ ranges; add 1kΩ per lead for all other ranges.

MEASUREMENT NOISE REJECTION DC (60Hz/50Hz)

Rate	Digits	CMRR[1]	NMRR[2]
10PLC	6½	140 dB	60 dB
1PLC	5½	140 dB	60 dB

1. For 1kΩ unbalance in LO lead.
2. For line frequency ±0.1%.

TEMPERATURE (RTD)

Range	Resolution	4-Wire Accuracy[1], 1 Year
–100°C to +100°C	0.001°C	±0.1°C
–200°C to +630°C	0.001°C	±0.2°C

RTD TYPE: 100Ω platinum (PT100), D100, F100, PT385, or PT3916.

MAXIMUM LEAD RESISTANCE (each lead): 12Ω (to achieve rated accuracy).

SENSOR CURRENT: 1mA (pulsed).

1. Excluding probe errors. 23°C ±5°C.

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AC CHARACTERISTICS:
Accuracy[1] ±(% of reading + % of range)

Function	Range	Frequency (Hz)	1 Year (% of reading) 23°C ±5°C
Frequency and Period	100 mV to 750 V[2]	3–5	0.10
		5–40	0.05
		40–300k	0.01

Function	Range	Resolution	Frequency (Hz)	1 Year (23°C ±5°C)
ACV (AC TRMS Voltage)	100.0000 mV	0.1 µV	3 – 5	1.15 + 0.05
			5 – 10	0.45 + 0.05
			10 – 20k	0.08 + 0.05
			20k – 50k	0.15 + 0.06
			50k – 100k	0.70 + 0.09
			100k – 300k	4.25 + 0.60
	1.000000 V to 750.000 V[2]	1.0 µV to 1 mV	3 – 5	1.10 + 0.04
			5 – 10	0.4 + 0.04
			10 – 20k	0.08 + 0.04
			20k – 50k	0.14 + 0.06
			50k – 100k	0.70 + 0.08
			100k – 300k	4.35 + 0.50
ACI (AC TRMS Current)	1.000000 A	1 µA	3 – 5	1.10 + 0.05
			5 – 10	0.40 + 0.05
			10 – 5k	0.15 + 0.05
	3.000000 A	10 µA	3 – 5	1.25 + 0.07
			5 – 10	0.45 + 0.07
			10 – 5k	0.20 + 0.07

AC NOTES

1. Specifications valid for two hour warm-up at 6½ digits.
   a. Slow AC filter (3Hz bandwidth).
   b. Pure sine wave input greater than 5% of range.
2. 750VAC range is limited to 100kHz.

GENERAL

AC CMRR: 70dB (for 1kΩ unbalance LO lead).

POWER SUPPLY: 120V/220V/240V.

POWER LINE FREQUENCY: 50/60Hz auto detected.

POWER CONSUMPTION: 25VA max.

DIGITAL I/O INTERFACE: USB-compatible Type B connection.

ENVIRONMENT: For indoor use only.

OPERATING TEMPERATURE: 5° to 40°C.

OPERATING HUMIDITY: Maximum relative humidity 80% for temperature up to 31°C, decreasing linearly to 50% relative humidity at 40°C.

STORAGE TEMPERATURE: –25° to 65°C.

OPERATING ALTITUDE: Up to 2000m above sea level.

BENCH DIMENSIONS (with handles and feet): 112mm high × 256mm wide × 375mm deep (4.4 in. × 10.1 in. × 14.75 in.).

WEIGHT: 4.1kg (9 lbs.).

SAFETY: Conforms to European Union Directive 73/23/ECC, EN61010-1, UL61010-1:2004.

EMC: Conforms to European Union Directive 89/336/EEC, EN61326-1.

WARRANTY: One year.

Model 2100 rear panel