



Digital Multimeter

SINO (MS8203)

Double Digital 8000 Count and Analog Bar Graph

FEATURE

1. Large LCD window, double digital 8000 count and analogue bar graph display
2. Calendar clock real display, record measurement time.
3. Button control multilevel setup, upper limit of measurement value, lower limit of measurement value, upper limit and lower limit of measurement alarm function.
4. Record the measured value and read recorded value having calendar, can record 33 measured value.
5. Four display modes: bar graph display, double digital display and calendar clock display, display true RMS value and frequency or maximum value and minimum value at the same time, also can display relative quantity and error percent of the relative value, display Fahrenheit and Celsius.
6. Match PC photo electricity interface and PC windows software, record data and export graph.

SPECIFICATION

General Specification

Maximum voltage between terminals and earth ground: Class II 1000V DC or 750V AC RMS.

Low battery indication: LCD displays -+ symbol

Reading Holding: "H" is showed on the LCD

Display : Max 7999

Overload indication: "OL" in the LCD

Range: auto range/ manual
POWER SUPPLY 6X 1.5V AA BATTERIES
DIMENSION SIZE : 200mm X 100mm X 40mm
WEIGHT: approx. 560g
RS232C INTERFACE

Accuracy and Resolution

Accuracy is given as $\pm$ (%of reading + number of least significant digits) at $23^{\circ}\text{C} \pm$ number of least significant digits) at $23^{\circ}\text{C} \pm 3^{\circ}\text{C}$, with humidity up to $50\%\text{RH} \pm 10\%$.

Frequency Range in voltage measurement mode us 40~400Hz and input Impedance is $10\text{M}\Omega$.

DC VOLTAGE

RANGE	ACCURACY	RESOLUTION
800mV	$\pm(0.5\%+6\text{gts})$	0.1mV
8V	$\pm(0.5\%+6\text{gts})$	0.001V
80V	$\pm(0.5\%+6\text{gts})$	0.01V
800V	$\pm(0.5\%+6\text{gts})$	0.1V

Input impedance: $10\text{M}\Omega$

Max input Voltage: 1000V DC or 750V AC (RMS)

AC VOLTAGE

RANGE	ACCURACY	RESOLUTION
800mV	$\pm(1\%+8\text{dgs})$	0.1mV
8V	$\pm(1\%+8\text{dgs})$	0.001V
80V	$\pm(1\%+8\text{dgs})$	0.01V
700V	$\pm(1\%+8\text{dgs})$	0.1V

Input Impedance: $10\text{M}\Omega$

Max input voltage: 1000V DC or 750AC (RMS)

AC + DC VOLTAGE

RANGE	ACCURACY	RESOLUTION
800mV	$\pm(1.5\%+8\text{dgt})$	0.1mV
8V	$\pm(1.5\%+8\text{dgt})$	0.001V
80V	$\pm(1.5\%+8\text{dgt})$	0.01V
700V	$\pm(1.5\%+8\text{dgt})$	0.1V

Input Impedance: 10M Ω

Max Input Voltage: 1000V DC or 750V AC (RMS)

DC CURRENT

RANGE	ACCURACY	RESOLUTION
80mA	$\pm(1\%+6\text{dgt})$	0.01mA
1A	$\pm(1\%+6\text{dgt})$	0.15mA
10A	$\pm(2\%+6\text{dgt})$	0.01A

Overload Protection: 1A/250V for 80mA, 1A range

10A/600V for 10A range

Max Input Current: mA jack is 1A, 10A jack is 10A Voltage landing: 800mV

AC + DC CURRENT

RANGE	ACCURACY	RESOLUTION
80mA	$\pm(2.5\%+8\text{dgt})$	0.01mA
1A	$\pm(2.5\%+8\text{dgt})$	0.15mA
10A	$\pm(2.5\%+8\text{dgt})$	0.01A

Overload Protection: 1A/250V for 80mA, 1A range

10A/600V for 10A range

Max Input Current: mA jack is 1A, 10A jack is 10A voltage landing: 800mV

RESISTANCE

RANGE	ACCURACY	RESOLUTION
800 Ω	$\pm(1\%+6\text{dgt})$	0.1 Ω
8k Ω	$\pm(1\%+6\text{dgt})$	0.001k Ω
80k Ω	$\pm(1\%+6\text{dgt})$	0.01k Ω
800k Ω	$\pm(1\%+6\text{dgt})$	0.1K Ω
8M Ω	$\pm(1.5\%+6\text{dgt})$	0.001m Ω

40mΩ	±(2.5%+8dgt)	0.05MΩ
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Open Circuit voltage: 4V

Overload Protection: 250V DC or AC (RMS)

FREQUENCY

RANGE	ACCURACY	RESOLUTION
10~100Hz	±0.5%	0.01Hz
100~1000Hz	±0.5%	0.1Hz
1~10KHz	±0.5%	1Hz

Overload protection: 1000V DC or 750 AC (RMS)

Sensitivity 800mV: ≥50mV

8V: ≥500mV

80V: ≥5V

700V: ≥50V

TEMPERATURE

RANGE	ACCURACY	RESOLUTION
-50~300°C	±3°C	1°C
300~1300°C	±1%	1°C

Overload Protection: 250V DC or AC (RMS)

SAFETY PRECAUTIONS

Read these operation instructions thoroughly and completely before operating you meter. Pay particular attention to WARNING . The instructions in these warnings must be followed.

you must be careful when working with voltages above 30V AC. Keep fingers behind the probe barriers while measuring.

Never use the meter to measure voltages that might exceed the allowable maximum input value if any function measurement mode.

Always inspect your meter and test leads before every use. If any abnormal conditions exist: broken test leads, cracked cases, LCD not reading, etc, do not attempt to take any measurement.

Never replace the protective fuse inside the instrument with a fuse other than the specified or approved equal fuse. Replace only with same type of fuses.

To avoid electrical shock, turn off the instrument and disconnect the test leads and any input signals before replacing the fuses.

Using the meter with the equipped test leads is only conforming to safety requirements. If you need instead broken test leads, you must replace with the same as type and electric specification.

Never touch a voltage source when the test leads are plugged into a current jack.

Do not expose the instrument to direct sunlight, extreme temperature or moisture.

SAFETY INFORMATION

- 1. Intelligence digit multimeter complies with IEC1010-1, Protection Class II 1000V, pollution degree II . If the instrument is used in a manner not specified, the protection provided by the equipment may be impaired.**
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