

CM5093

3 3/4 Digits Auto Range Multimeter with Capacitance, Frequency and Temperature Measurement

Features:

- 3 3/4 Digits LCD Display
- Max. reading 3999
- Auto power off
- DC voltage 400mV up to 600V
- AC voltage 400mV up to 600V
- DC current 400 μ A up to 10A (fused)
- AC current 400 μ A up to 10A (fused)
- Resistance 400 Ω up to 30M Ω
- Capacitance 50nF up to 100 μ F
- Frequency 5Hz up to 100kHz
- Duty cycle 20% to 80%
- Temperature measurement ($^{\circ}$ C or $^{\circ}$ F – factory set)
- Data hold
- Low battery warning display
- Diode test
- Continuity test
- All ranges 600volt overload protection
- Wrong terminal inserting warning beeper
- German technology double moulded casing
- Power single 9V NEDA 1604
- Conform to IEC1010/EN61010
CAT III 600V, CE-EMC & LVD



General Specifications

Display	: 3 3/4 digits LCD with max. reading of 3999.
Polarity	: Automatic, (-) negative polarity indication.
Zero adjustment	: Automatic.
Over range indication	: Only the MSD “OL” is displayed.
Power	: Single, standard 9 volt battery NEDA 1604, JIS 006P, IEC6F22.
Dimension	: 93 (W) x 194 (H) x 39.4 (D) mm.
Weight	: Approx. 400 g (including battery).

Due to our policy of continual product development we reserve the right to amend the specifications of all mentioned products without notice.

Electrical Specification

Accuracies are \pm (% of reading + number of least significant digits) at 23°C \pm 5°C, less than 75%RH

DC Voltage Measurement

Range	Resolution	Accuracy	Input impedance	Overload protection
400mV	0.1mV	\pm (1.0% Read. + 2dgt)	10M Ω	600VDC/AC rms
4V	0.001V	\pm (0.8% Read. + 3dgt)		
40V	0.01V			
400V	0.1V			
600V	1V			

AC Voltage Measurement

Range	Resolution	Accuracy	Input impedance	Overload protection
400mV(*)	0.1mV	\pm (2.0% Read. + 5dgt)	10M Ω	600VDC/AC rms
4V	0.001V	\pm (1.2% Read. + 3dgt)		
40V	0.01V			
400V	0.1V			
600V	1V			

(*)ACmV only available in manual-range

Frequency Range: 40-400Hz

DC Current Measurement

Range	Resolution	Accuracy	Voltage drop	Overload protection
400uA	0.1uA	\pm (1.0% Read. + 5dgt)	400mV	Fuse 500mA/600V
4000uA	1uA			
40mA	0.01mA			
400mA	0.1mA			
4A	0.001A	\pm (1.2% Read. + 5dgt)	400mV	Fuse 10A/600V
10A	0.01A	\pm (1.5% Read. + 5dgt)	200mV	Fuse 10A/600V

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AC Current Measurement

Range	Resolution	Accuracy	Voltage drop	Overload protection
400uA	0.1uA	±(1.2% Read. + 5dgt)	400mV	Fuse 500mA/600V
4000uA	1uA			
40mA	0.01mA			
400mA	0.1mA			
4A	0.001A	±(1.5% Read. + 5dgt)	400mV	Fuse 10A/600V
10A	0.01A	±(2.0% Read. + 5dgt)	200mV	Fuse 10A/600V

Frequency Range: 40-400Hz

Resistance Measurement

Range	Resolution	Accuracy	Max. open circuit voltage	Overload protection
400Ω	0.1 Ω	±(1.0% Read. + 2dgt)	<700mV	600VDC/ACrms<30 sec
4 kΩ	0.001 kΩ			
40 kΩ	0.01 kΩ			
400 kΩ	0.1 kΩ			
4 MΩ	0.001 MΩ			
30 MΩ	0.01 MΩ	±(2.0% Read. + 5dgt)		

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Temperature Measurement (°C or °F)

Instrument Range	Resolution	Accuracy	Overload protection
-40°C -400°C	1°C	±(0.75 % Read. + 3dgt)	Fuse 500mA/600V
400°C -1000°C		±(2.0% Read. + 5dgt)	
-40°F -500°F	1°F	±(1.0 % Read. + 3dgt)	
501°F -1000°F		±(5.0 % Read. + 3dgt)	
1001°F -1832°F		±(6.0 % Read. + 3dgt)	

Diode Test

Range	Forward voltage drop	Test current	Max open circuit voltage	Overload protection
	0 – 1.000V	Approx. 0.6mA	1.5V	600V DC/ACrms<30sec

Continuity Test

Range	Sound level	Test current	Max open circuit voltage	Overload protection
	Approx ≤ 50Ω resistance value	Approx. 1mA	Approx.0.5 V	600VDC/ACrms<30sec

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Capacitance Test

Range	Resolution	Accuracy	Overload protection
50.00nF	0.01nF	±(3.0% Read. + 5dgt)	600VDC/ACrms<30sec
500.0nF	0.1nF		
5.000uF	0.001uF		
50.00uF	0.01uF		
100uF	0.1uF(15sec)	±(3.5% Read. + 5dgt)	

Frequency Test

Range	Resolution	Accuracy	Overload protection
5Hz	0.001Hz	±(1.5% Read. + 5dgt) Vpp = 600mV	600VDC/ACrms <30sec
50Hz	0.01Hz		
500Hz	0.1Hz		
5kHz	1Hz		
50kHz	10Hz		
100kHz	100Hz		

Duty Cycle Measurement

Range	Resolution	Accuracy	Overload Protection
20 – 80%	0.1%	±(3.5% Read. + 5dgt)	250V DC/AC rms <30 sec.

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