

Bench type, SD Card real time data recorder, True RMS

# MULTIMETER

Model : DM-9971SD

ISO-9001, CE, IEC1010

[www.yalab.com.tw](http://www.yalab.com.tw)

02-2389-0101



**Lutron**

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*The Art of Measurement*

Bench type, professional SD card real time data recorder

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## FEATURE

* Real time Datalogger, save the into the SD memory card and can be downloaded to the Excel, extra software is no need.
* Real time Datalogger, it Built-in Clock (year/month/date/ hour/minute/second ), sampling time set from 2 seconds to 3600 seconds.
* Manual datalogger is available ( set the sampling time to be 0 second ).
* Meet IEC 1010 CAT III 1000 V ,CAT IV 600 V safety requirement.
* LCD with green light backlight, easy reading.
* 6000 counts A/D, high resolution.
* Accepts SD memory cards of up to 32 GB capacity.
* Multi function measurement. DCV, ACV, DCA, ACA, Resistance, Frequency, Duty cycle, Diode, Continuity beeper.
* Max. & Min. measurement value with recall.
* Relative, Data hold.
* Auto range with manual range selection.
* V/A/Hz button, when execute the ACV, ACA function also can measure the frequency of signal.
* Both 10 A, mA, uA current are build fuse for safety consideration.
* 10 M ohm impedance for voltage circuit.
* Operates from 9 V ( DC 1.5V AA/UM-3 X 6 PCs ) batteries.
* Built-in overload protection for most ranges.
* Photo couple RS 232 computer serial interface.
* Uses durable, long-lasting components, enclosed in strong, weight ABS-plastic housing.
* Full line optional adapters : Clamp adapter, Tachometer adapter, Pressure adapter, Humidity Adapter, Sound level adapter, Anemometer adapter, Light adapter, EMF adapter.

## GENERAL SPECIFICATION

Display	97 mm x 56 mm large LCD display	
Measurement	DCV, ACV, DCA, ACA, Resistance, Diode, Continuity beeper, Frequency, Duty cycle.	
Datalogger Sampling Time Setting range	Auto	2 seconds to 3600 seconds
	Manual	Push the data logger button once will save data one time. @ Set the sampling time to 0 seconds.
Data error no.	$\leq 0.1\%$ no. of total saved data typically.	
SD card capacity	2 GB to 32 GB	
A/D counts no.	6000 counts.	
Range selection	Auto range with manual range selecting.	
Special function	Relative measurement, Data hold,	
Data hold	To freeze the display reading on the LCD display.	
Power On/Off management	Auto power of or manual power off.	
Memory recall	Records Maximum & Minimum readings with recall.	
Relative measurement	To offset the measurement value.	
V/A/Hz button	When execute the voltage or current function also can measure the frequency of signal.	
Data output	RS 232 PC serial interface, photo couple.	
Polarity	Automatic Switching, " - " indicates negative polarity.	

Zero adjustment	Automatic.
Sampling time of display	Approx. 0.5 to 1 second.
Operating temperature	0 °C to 50 °C (32 °F to 122 °F),
Operating humidity	Max. 80% RH.
Power supply	DC1.5 V (AA) battery x 6 PCs or DC 9V adapter input * AC/DC Power adapter is optional.
Power consumption	Normal operation (w/o SD card save data) : Approx. DC 80 mA
	When SD card save the data : Will increase approx. DC 25 mA.
Dimension	292 x 236 x 100 mm ( 11.5 x 9.3 x 3.9 inch ).
Weight	1450 g/3.19 LB ( w.o battery ).
Accessories Included	Red and Black Test Leads ( CAT III 1KV Test Leads ). 1 Set 630 mA Spare Fuse. 1 PC Instruction Manual. 1 PC
Optional accessories	Full line adapters : ACA/DCA current adapter, Tachometer adapter, Humidity adapter, Pressure adapter, Light adapter, EMF adapter, Light adapter, EMF adapter, AC to DC 9V Adaptre.....AP-9VA RS232 cable to D-Sub 9 connector....UPCB-06 RS232 cable to USB connector.....USB-11 SD card.....SD-4GB Data Acquisition software. SW-U801-WIN, SW-E802

## ELECTRICAL SPECIFICATIONS (23± 5 °C)

### DC Voltage

Range	600.0 mV /6 V/60 V/600 V /1000 V	
Resolution	0.1 mV /0.001V /0.01V /0.1V/1 V	
Accuracy	600 mV	± ( 0.5% + 2d )
	6 V, 60 V, 600 V, 1000 V	± ( 0.8% + 1d )
Input impedance	10 M ohm.	
Over load protection	600 mV range	± 380 DCV, 380 ACV
	other ranges	± 1000 DCV, 1000 ACV

### AC Voltage ( True RMS )

Range	600.0 mV /6 V/60 V/600 V /1000 V	
Resolution	0.1 mV /0.001V /0.01V /0.1V/1 V	
Accuracy	± ( 1% + 2d ) * Spec. are tested under 50/60 Hz.	
Input impedance	10 M ohm.	
Over load protection	600 mV range	± 380 DCV, 380 ACV
	other ranges	± 1000 DCV, 1000 ACV

**DC Current, AC Current ( True RMS )**

Range	10 A/6 A/600 mA/60 mA/6000 uA/600 uA		
Resolution	0.01 A/0.001 A/0.1 mA/0.01 mA/1 uA/0.1 uA		
Accuracy		DCA	ACA
	600 uA	$\pm ( 0.5 \% + 2d )$	$\pm ( 1 \% + 7d )$
	6000 uA	$\pm ( 0.5 \% + 2d )$	$\pm ( 1 \% + 7d )$
	60 mA	$\pm ( 0.5 \% + 2d )$	$\pm ( 1 \% + 7d )$
	600 mA	$\pm ( 0.5 \% + 2d )$	$\pm ( 1 \% + 7d )$
	6 A	$\pm ( 1.5 \% + 5d )$	$\pm ( 1.5 \% + 5d )$
	10 A	$\pm ( 1.5 \% + 2d )$	$\pm ( 1.5 \% + 2d )$
	* ACA spec. are tested under 50/60 Hz.		
Over load protection	10A range : 10A fuse.		
	uA, mA range : 630 mA fuse.		

**Diode ( Forward voltage, VF )**

Range	2.9 V DC.
Accuracy	$\pm ( 0.5\% + 2d )$

**Frequency**

Range	60 Hz/600 Hz/6 KHz/60 KHz/600 KHz/6 MHz/20 MHz
Resolution	0.01 Hz/0.1 Hz/0.001 KHz/0.01 KHz/0.1 KHz/0.001 MHz/0.01 MH
Accuracy	$\pm ( 0.5\% + 2d )$
Sensitivity	Min. 1 V rms, Max. 5 V rms.

**OHMS**

Range	600 $\Omega$ /6 K $\Omega$ /60 K $\Omega$ /600 K $\Omega$ /6 M $\Omega$ /60 M $\Omega$		
Resolution	0.1 $\Omega$ /0.001 K $\Omega$ /0.01 K $\Omega$ /0.1 K $\Omega$ /0.001 M $\Omega$ /0.01 M $\Omega$		
Accuracy	600 ohm :	$\pm ( 1 \% + 2d )$	
	6K/60K/600K/6 M	$\pm ( 1.5 \% + 2d )$	
	60 M	$\pm ( 3 \% + 5d )$	
Over load protection	$\pm 350$ DCV, 350 ACV.		

**Continuity Beeper**

Beeper will sound if measured resistance less than 20 ohm.
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**Max. & Min. Measurement**

During the operation can memorize the maximum and the minimum measurement value.
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\* Appearance and specifications listed in this brochure are subject to change without notice.

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