## Bench type, SD Card real time data recorder

# MULTIMETER

Model: DM-9971SD *ISO-9001, CE, IEC1010* 









The Art of Measurement

### Bench type, professional SD card real time data recorder

## **MULTIMETER**

Model: DM-9972SD

#### **DMM FEATURES**

*	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 backligh, 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 SPECIFICATIONS

Measurement         DCV, ACV, DCA, ACA, Resistance, Diode, Continuity beeper, Frequency, Duty cycle.           Datalogger Sampling Time Setting range         Auto 2 seconds to 3600 seconds           Setting range         Manual Push the data logger button once will save data one time.	Display	97 mm x 56 mm large LCD display		
Datalogger Sampling Time Setting range       Auto       2 seconds to 3600 seconds         Data error no.       ≤ 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,         Power On/Off management       Records Maximum & Minimum readings with recall.         Memory recall       Records Maximum & Minimum readings with recall.         Relative measurement value.       To offset the measurement value.         When execute the voltage or current function also can measure the frequency of signal.       Data output         Polarity       Automatic Switching, " - " indicates negative polarity.         Zero adjustment       Automatic.         Sampling time of display       0 °C to 50 °C (32 °F to 122 °F),         Operating temperature       Max. 80% RH.         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	Measurement	DCV, ACV,	, DCA, ACA, Resistance, Diode,	
Sampling Time Setting range  Manual Push the data logger button once will save data one time.  @Set the sampling time to 0 seconds.  Data error no.  SD card capacity 2 GB to 32 GB  A/D counts no.  Range selection Special function Data hold Power On/Off management Memory recall Relative Memory recall Resords Maximum & Minimum readings with recall. To offset the measurement value.  When execute the voltage or current function also can measure the frequency of signal. Data output Polarity Automatic Switching, " - " indicates negative polarity.  Zero adjustment Sampling time of display Operating temperature Operating Max. 80% RH.  Dimersion  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  Max. 80 w. obstery).		Continuity	beeper, Frequency, Duty cycle.	
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Memory recall       Records Maximum & Minimum readings with recall.         Relative measurement       To offset the measurement value.         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       O °C to 50 °C (32 °F to 122 °F), temperature         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).	Power On/Off	Auto powe	er of or manual power off.	
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Weight 1450 g/3.19 LB ( w.o battery ).				
Accessories   Red and Black Test Leads				
630 mA Spare Fuse1 PC				
Instruction Manual				

Optional	Full line adapters :
accessories	ACA/DCA current adapter, Tachometer adapter, Humidity adapter, Pressure adapter, Light adapter, EMF adapter, Light adapter, EMF adapter,
	AC to DC 9V AdaptreAP-9VA RS232 cable to D-Sub 9 connectorUPCB-06 RS232 cable to USB connectorUSB-11 SD cardSD-4GB Data Acquisition softwareSW-U801-WIN, SW-E802

#### ELECTRICAL SPECIFICATIONS (23±5°C)

#### DC Voltage

DC VUITAGE			
Range	600.0 mV /6 V/60	V/600 V /10	000 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	600 mV range	± 380 DC\	/, 380 ACV
protection	other ranges	± 1000 DC	V, 1000 ACV

#### AC Voltage (True RMS)

AC VOITAGE ( True KIVIS )			
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	600 mV range	± 380 DCV, 380 ACV	
protection	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	± (0.5 % + 2d)	± (1% + 7d)	
	6000 uA	± (0.5 % + 2d)	± (1% + 7d)	
	60 mA	± (0.5 % + 2d)	± (1% + 7d)	
	600 mA	± (0.5 % + 2d)	± (1% + 7d)	
	6 A	± (1.5 % + 5d)	± (1.5 % + 5d)	
	10 A	± (1.5 % + 2d)	± (1.5 % + 2d)	
	* ACA spec. are tested under 50/60 Hz.			
Over load 10A range : 10A fuse.				
protection	uA, mA range	e: 630 mA fuse.		
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#### Diode (Forward voltage, VF)

Biode (Torrara Voltage, VI)		
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

600 Ω /6 ΚΩ /60 ΚΩ /6	00 ΚΩ /6 ΜΩ /60 ΜΩ	
0.1Ω /0.001 ΚΩ /0.01 ΚΩ /0.1 ΚΩ /0.001 ΜΩ /0.01 ΜΩ		
600 ohm :	± (1 % + 2d)	
6K/60K/600K/6 M	± (1.5 % + 2d)	
60 M	± (3 % + 5d)	
± 350 DCV, 350 ACV.		
	0.1Ω /0.001 KΩ /0.01 KΩ /0 600 ohm : 6K/60K/600K/6 M 60 M	

#### Continuity Beeper

Beeper will sound if measured resistance less than 20 ohm.

#### Max. & Min. Measurement

During the operation can memorize the maximum and the minimum measurement value.

<sup>\*</sup> Appearance and specifications listed in this brochure are subject to change without notice.