



Optional  
Hard carrying case  
CA-08



**DMM with Data recorder set**

**Model : DM-9680/DL-9602SD SET**

\* Complete set includes :

1. MULTIMETER, DM-9680.
2. SD card data recorder, DL-9602SD.
3. Interface cable, UPCB-03.

\* Complete set is used to record the DMM's measurement values ( ACA, DCA, ACV, DCV ohms.....) with the real time information.

\* Optional hard carrying case ( 370 x 310 x 115 mm ), CA-08.

\* Optional AC to DC 9V power adapter for DM-9680, DL-9602SD is available.

**RS232 /USB computer interface  
MULTIMETER**

**Model : DM-9680**

\* RS232 computer interface output.

\* Multi-functions, 29 ranges, DCV, ACV, ohms, DCA, ACA, hFE, Diode, Beeper.

\* ACV/DCV : 200 mV/2/20/200/600 V

\* ACA/DCA : 200 uA/2mA/20mA/200mA/10A

\* Ohms : 200/2K/20K/200K/2M/20M

\* Meter size : 185 x 87 x 39 mm. 18 mm LCD.

\* Power : 006P DC 9V battery.

\* RS232/USB computer interface.

**Real time data recorder  
SD CARD DATA LOGGER**

**Model : DL-9602SD**

\* Real time SD memory card Datalogger, it can cooperate with most LUTRON instruments if it is built-in the computer interface.

\* Innovation and easy operation, computer is not need to setup extra software, just take away the SD card from the DL-9602SD and plug into the computer, then the measured values with the time information ( year/month/date/hour /minute/ second ) can be downloaded to the Excel directly. User can make the further data or graphic analysis in the Excel by themselves.

\* Built-in Clock and Calendar, real time data recorder, sampling time can be set from 2 seconds to 8 hours 59 minutes 59 seconds.

\* Manual datalogger is available ( set the sampling time to 0 ), during executing the manual datalogger function, it can set the different place location No.( place 1 to place 99 ).

\* Signal input : Accept DM-9680's RS232 signal via interface cable UPCB-03.

\* SD card ( optional ) capacity : 1 GB to 16 GB.

\* DC 1.5V battery ( UM-3 , AA ) x 6 or DC 9V adapter in.

\* LCD with green light backlight, easy reading.

RS232 computer interface

# MULTIMETER

Model : DM-9680

ISO-9001, CE, IEC1010



SW-U801  
*optional*



UPCB-02  
*optional*



CA-06  
*optional*



LUTRON ELECTRONIC

**The Art of Measurement**

with RS-232 interface

# MULTIMETER

Model : DM-9680

## FEATURES

- \* Multi function measurement : ACV, DCV, ACA, DCA, OHM, Continuity Beeper, Transistor hFE, Diode,
- \* Meet IEC safety requirement.
- \* High accuracy in measuring.
- \* High internal impedance assures minimum measuring error.
- \* Rotary function switch, easy operation.
- \* Large size LCD display, easy reading.
- \* LCD display, clear readout even in high ambient light environment.
- \* Compact, light weight & excellent operativeness.
- \* Overload protection for any range.
- \* Drop proof.
- \* RS232 PC interface, photo couple isolated circuit.
- \* When apply the optional software, then the meter can be used as data logging, data recorder & other intelligent applications.

## GENERAL SPECIFICATIONS

Display	18 mm (0.7") LCD, 3 1/2 digits.
Measurement & Functions	DCV, ACV, DCA, ACA, ohms, hFE, Continuity Beeper.
Polarity	Automatic Switching, '-' indicates negative polarity.
Zero Adj.	Automatic.
Over-input	Display shows '1' or '-1'.
Sampling Time	Approx. 0.4 second.
RS-232 Output	Isolated (photo couple) RS-232 serial data output, 9600 baud rate.
Operating Temperature	0 to 50 °C (32 to 122 °F).
Operating Humidity	Max. 80% RH.
Power Supply	006P DC 9V battery(heavy duty type).
Power Consumption	Approx. DC 7 mA.
Dimension	204 x 90 x 36 mm (7.3 x 3.4 x 1.5 inch).
Weight	322 g/0.71 LB.
Standard Accessories Included	Red and Black Test Leads ..... 1 pair. 0.5 Amp Spare Fuse ..... 1 PC. Instruction Manual ..... 1 PC.
Optional Accessories	RS-232 cable, UPCB-02 Application Software, SW-U801 Hard carrying case, CA-06 USB cable : USB-01 Light adapter LX-02 Anemometer adapter, AM-402 Humidity adapter, HA-702 tachometer adapter TA-601 1000 A DC/AC current adapter, CA-501 2000 A DC/AC current adapter, CA-203 Mini ACA current adapter, CA-201 EMF adapter, EMF-824 Sound adapter, SL-406 50 A current shunt, ST-50 High voltage probe, HV-40 Carrying case CA-03, CA-05A Alligator test lead, TL-02S Alligator test lead, TL-02S Heavy duty alligators, AL-04 Holster, HS-01

## ELECTRICAL SPECIFICATIONS ( 23 ± 15 °C )

DC VOLTAGE				
RANGE	ACCURACY	RESOLUTION	INPUT IMPEDANCE	OVERLOAD CKT. PROTECTION
200mV	± (0.5%+1d)	100uV	10 M ohm	500V DC, 350V AC, 15 secs
2V	± (0.8%+1d)	1mV		DC 1000V
20V		10mV		AC 800 V
200V		100mV		15 secs
1000V		1V		

AC VOLTAGE				
FREQ. RESPONSE: 40Hz-500Hz, SINE WAVE				
SPEC. TESTED ON 60Hz/50Hz				
RANGE	ACCURACY	RESOLUTION	INPUT IMPEDANCE	OVERLOAD CKT. PROTECTION
200mV	± (1%+2 d)	100uV	10 M ohm	500V DC, 350V AC, 15 secs
2V		1mV		DC 1000V
20V		10mV		AC 800 V
200V		100mV		15 secs
750V		1V		

DC CURRENT				
RANGE	ACCURACY	RESOLUTION	VOLTAGE DROP in F.S.	OVERLOAD CKT. PROTECTION
200uA	± (1%+1d)	0.1 uA	DC 200 mV	0.5 A Fuse
2mA		1 uA		
20mA		10 uA		
200mA		100 uA		
A *		10 mA		UN FUSED

\* A range : 0 to 10 A - continuous operation  
> 10 A to 20 A - 1 min. operation max.

AC CURRENT				
FREQ. RESPONSE: 40Hz-500Hz, SINE WAVE				
SPEC. TESTED ON 60Hz/50Hz				
RANGE	ACCURACY	RESOLUTION	VOLTAGE DROP in F.S.	OVERLOAD CKT. PROTECTION
200uA	± (1.2%+2d)	0.1 uA	AC 200 mV	0.5 A Fuse
2mA		1 uA		
20mA		10 uA		
200mA		100 uA		
A *		10 mA		UN FUSED

\* A range : 0 to 10 A - continuous operation  
> 10 A to 20 A - 1 min. operation max.

RESISTANCE				
RANGE	ACCURACY	RESOLUTION	OPEN CKT. VOLTAGE	OVERLOAD CKT. PROTECTION
200 ohm	± (1%+3d)	0.1 ohm	Approx. 3 V	AC/DC 500 V
2K		1 ohm	Approx. 0.3 V Max.	
20K		10 ohm		
200K	100 ohm			
2 M	1K ohm			
20 M	± (2%+2d)	10K ohm		

CONTINUITY BEEPER
A continuity test beeper is standard, when checking short or open circuit, it is not necessary to look at the meter. The beeper sounds if continuity is present.

TRANSISTOR hFE MEASUREMENT
0 - 1000 hFE values of either p.n.p. or n.p.n. transistor. (Test condition: base dc current approx. 10 uA, VCE: approx. 2.8 V).

RS-232 OUTPUT
Isolated (photo couple) RS-232 serial data output, 9600 baud rate.

Real time

# SD CARD DATA LOGGER

Model : DL-9602SD

ISO-9001, CE, IEC1010



UPCB-03 (included)



LUTRON ELECTRONIC



*The Art of Measurement*

# *real time* SD CARD DATA LOGGER

## Model : DL-9602SD

### FEATURES

* Real time SD memory card Datalogger, it can cooperate with most LUTRON instruments if it build in the computer interface.
* Built-in Clock and Calendar, real time data recorder , sampling time set from 1 second to 8 hours 59 minutes 59 seconds.
* Manual datalogger is available ( set the sampling time to 0 ), during execute the manual datalogger function, it can set the different place ( location ) No. ( place 1 to place 99 ).
* Innovation and easy operation, computer is not need to setup extra software, after execute datalogger, just take away the SD card from the meter and plug in the SD card into the computer, it can down load the measured value with the time information ( year/month/date/ hour/minute/second ) to the Excel directly, then user can make the further data or graphic analysis by themselves.
* SD card capacity : 1 GB to 16 GB.
* Can set the numerical decimal point character to " . " or " , " with default, then Datalogger data that saved into the SD card can be used in different country.
* Can set max. 9 channels data input with default.
* DC 1.5V battery ( UM-3 , AA ) x 6 or DC 9V adapter in.
* LCD with green light backlight, easy reading.
* RS232 signal output, can connect the external computer.

### SPECIFICATIONS

Application	* Real time SD memory card Datalogger can cooperate with all LUTRON instruments if it build in the computer interface. * Innovation and easy operation, computer no need to setup extra software, after execute datalogger, just plug in the SD card into the computer, it can down load the all the measured value and unit along with the time information ( year/month/date/ hour/minute/second ) to the Excel directly, user can make the further data or graphic analysis by themselves.
Circuit	Custom one-chip of microprocessor LSI circuit.
Display	LCD size : 52 mm x 38 mm LCD with Backlight ( ON/OFF ).
Input Signal	Direct RS232 signal input. Isolate RS232 signal input.

Advanced setting	* SD memory card Format	
	* Set input channel No. Set clock time ( Year/Month/Date, Hour/Minute/ Second )	
	* Set sampling time ( Hour/Minute/ Second )	
	* Auto power OFF management	
	* Set LCD backlight ON/OFF	
* Set beeper sound ON/OFF		
Power off	Auto shut off saves battery life or manual off by push button.	
Sampling Time Setting range	Auto	2 seconds to 8 hours 59 min. 59 seconds. <i>@ Sampling time can set to 1 second, but memory data may loss</i>
	Manual	Push the data logger button once will save data one time. <i>@ Set the sampling time to 0 second.</i>
Data error no.	0.1% of total saved data max.	
Data Output	RS 232/USB PC computer interface. * <i>The output data structure are same as the input data.</i> * <i>Connect the optional RS232 cable UPCB-02 will get the RS232 plug.</i> * <i>Connect the optional USB cable USB-01 will get the USB plug.</i>	
Operating Temp. and Humidity	0 to 50 °C . Less than 85% R.H.	
Power Supply	* .Alkaline or heavy duty DC 1.5 V battery ( UM3, AA ) x 6 PCs, or equivalent.	
	* .DC 9V adapter input. ( AC/DC power adapter is optional ).	
Power Current	Normal operation ( w/o SD card save data and LCD Backlight is OFF ) : <i>Approx. DC 7 mA.</i>	
	When SD card save the data and LCD Backlight is OFF ) : <i>Approx. DC 28 mA.</i>	
	* .If LCD backlight on, the power consumption will increase approx. 17 mA.	
Weight	468 g/1.03 LB.	
Dimension	178 x 68 x 44 mm (7.0 x 2.7x 1.7 inch)	
Standard Accessories Included	* Instruction manual.....1 PC * Double earphone cable, UPCB-03 ..... 1 PC	
Optional Accessory	Hard carrying case, CA-06	

PATENT	CHINA : ZL 2008 2 0189918.5 ZL 2008 2 0189917.0	TAIWAN : M 358970 M 359043
	Germany : Nr. 20 2008 016 337.4	JAPAN : 3151214 U.S.A. : Pending

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

1001-DL9602SD