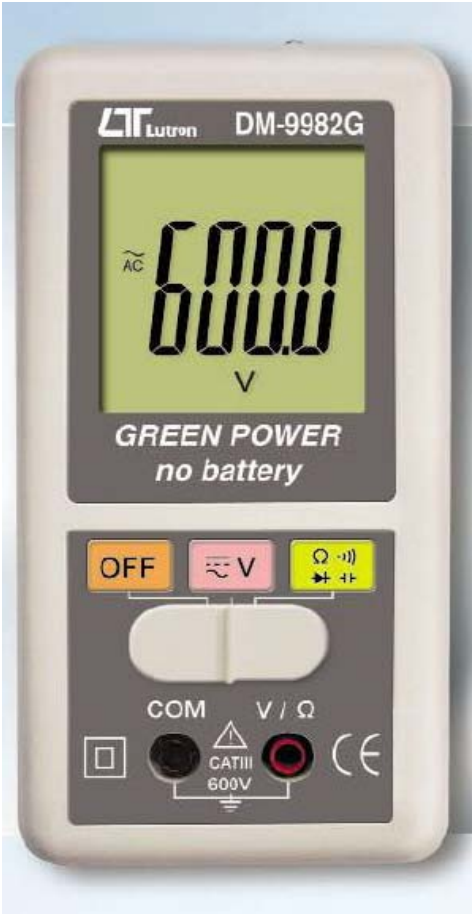
Green power, hybrid power

SMART MULTIMETER

Model : DM-9982G



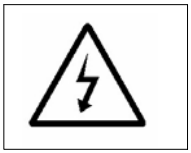
Your purchase of this SMART MULTIMETER marks a step forward for you into the field of precision measurement.

Although this MULTIMETER is a complex and delicate instrument, its durable structure will allow many years of use if proper operating techniques are developed.

Please read the following instructions carefully and always keep this manual within easy reach.

OPERATION MANUAL

Caution Symbol



Caution :

*** Risk of electric shock !**

Caution :

*** Do not apply the overload voltage, current to the input terminal !**

*** Remove test leads before open the battery cover !**

*** Cleaning - Only use the dry cloth to clean the plastic case !**

Environment Conditions

**** Installation Categories III 600V.***

**** Pollution Degree 2.***

**** Altitude up to 2000 meters.***

**** Indoor use.***

**** Relative humidity 80 % max.***

Equipment protected throughout by double insulation or reinforced insulation.

TABLE OF CONTENTS

1. FEATURES

* Green power, battery is no need, power supply from the handy generator, operate the generator 10 to 20 seconds will offer 10 minutes energy typically.
* Hybrid power, meter also can supply by the battery.
* Meet CAT III-600 V.
* 6000 counts A/D, high resolution.
* ACV, DCV, ohms, continuity, Capacitance, Diode.
* Smart function and auto range.
* Smart operation, Build in 2 intelligent function : " V ", " Ω ".
* " V " function can select ACV, DCV automatically with auto range.
* " Ω " function can select the Resistance , Diode, Continuity beeper, Capacitance automatically with auto range.
* Manual power off or auto power off.
* Auto shut off is available to save battery life.
* 10 M ohm impedance for voltage circuit.
* Built-in overload protection for all range.
* LSI circuit provides high reliability and durability.
* Patent.
* Uses durable, long-lasting components, enclosed in strong, light weight ABS-plastic housing.
* DIY version , easy operation.

2. SPECIFICATIONS

2-1 General specifications

Green power and Hybrid power	* Green power, battery is no need, power supply from the handy generator, operate 10 to 20 seconds the generator will offer 10 minutes energy typically. * Hybrid power, meter also can supply by the battery power
Display	46 mm x 45 mm large LCD display.
Measurement	ACV, DCV, ohms, continuity beeper, Capacitance, Diode.
A/D counts no.	6000 counts.
Range selection	Smart function, auto range.
Smart function	" V " function can select ACV, DCV automatically with auto range.
	" Ω " function can select the Resistance, Diode, Continuity beeper, Capacitance automatically with auto range.
Power On/Off management	Manual power off.
	Auto power off : If meter is not operated within 3 minutes will auto power switch off.
Polarity	Automatic Switching, " - " indicates negative polarity.
Zero adjustment	Automatic.
Sampling time	Approx. 0.5 to 1 second.
Operating Temperature	0 to 50 ℃ (32 to 122 ℉).
Operating humidity	Less than 80% RH.

Power Supply	Green power : Power from the handy generator, battery is no need.
	Battery power : DC3V battery (CR-2032) x 2 PCs.
Power consumption	DC 3 mA.
Weight	320 g/0.70 LB.
Dimension	152 x 78 x 45 mm (6.0 x 3.1 x 1.8 inch)
Accessories Included	Red and Black Test Leads..... 1 Set Instruction Manual..... 1 PC

ELECTRICAL SPECIFICATIONS (23± 5℃)

DC/AC Voltage	*** auto range**
Range	6 V /60 V/600 V
Resolution	0.001 V /0.01 V/0.1 V
Accuracy	DCV : ± (1 % + 2d)
	ACV : ± (1.2 % + 5d)
Input impedanc	10 M ohm.
Over load protection	AC/DC 600 V.
Remark	** The input impedance is 10 Mega ohm.* ** ACV specification be tested on sine wave 50/60 Hz.* ** The ACV start measurement voltage is larger than 400 mV ± 100 mV.*

OHMS	*** auto range**
Range	600/6 K/60 K/600 K/6 M ohm
Resolution	0.1/1/10/100/1 K ohm
Accuracy	± (1% + 3d)
Over load protection	± 350 DCV, 350 ACV

Capacitance	*** auto range**
Range	6 nF/60 nF/600 nF/6 uF/60 uF
Resolution	0.001 nF/0.01 nF/0.1 nF/0.001 uF/ 0.01 uF
Accuracy	± (3% + 5d)
Remark	*Discharge capacitor before testing.*

Diode
Short/non conductance, good/defect test.

Continuity
If measuring resistance is less than 10 ohm, the beeper will sound .

3. FRONT PANEL DESCRIPTION

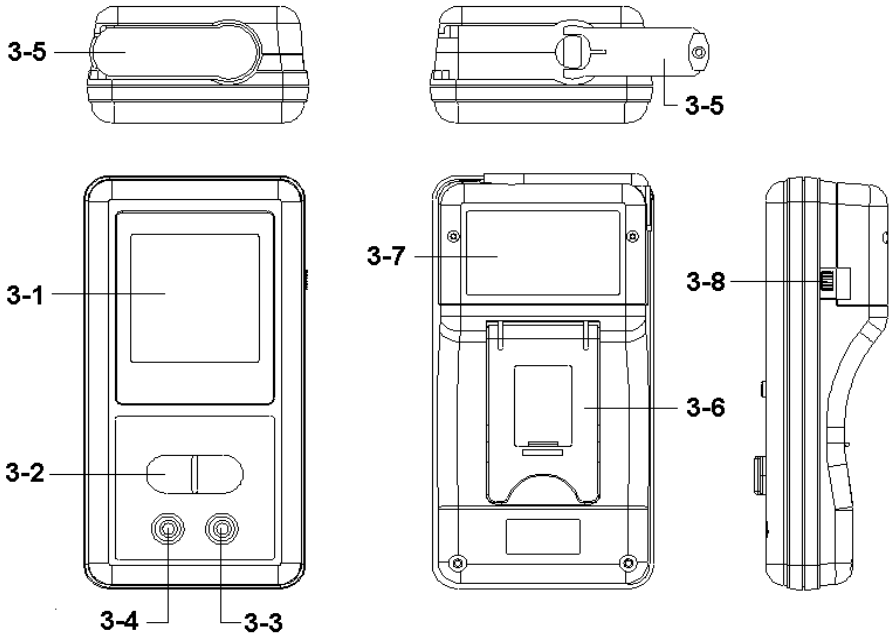


Fig. 1

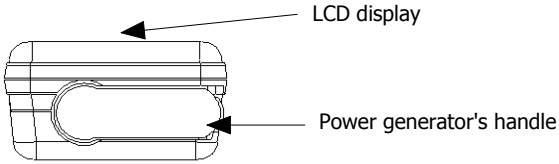
3-1 Display
3-2 Function switch
3-3 V/Ω terminal
3-4 COM terminal
3-5 Handle of power generator
3-6 Stand
3-7 Battery compartment/cover
3-8 Power type switch (G/B switch)

4. POWER TYPE SELECTION

4-1 Power supply from the generator (Green power supply)

1) **Select the " Power type switch " (3-8, Fig. 1) to the " G position " (Green power position).**

There is a " Power generator's handle " (3-5, Fig. 1) on the top of the housing case.



2) Lift and extend the " Power generator's handle " and rotate the handle in clockwise direction will generate the power energy into the meter, refer to Fig. a, b, c.

Fig. a

Fig. b

Fig. c

c. Wind-up the generator 10 to 20 seconds will offer 10 minutes energy typically. If wind-up the generator more time, the meter will be saved more energy and let the meter be operated for a long period.

4-2 Power supply from the battery

1) Install the " DC3V battery (CR-2032) x 2 PCs " into the " Battery compartment " (3-7, Fig. 1)
2) Slide the " Power type switch " (3-8, Fig. 1)to the " B " position (battery position), the meter will offer the power source from the battery.

5. MEASURING PROCEDURE

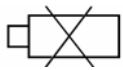
5-1 precautions & preparations for measurement

1) Place the Red & Black Test Leads into the proper input terminal before making measurement.
2) Remove either of the test leads from the circuit when changing the measurement range.
3) Do not exceed the maximum rated voltage and current to the input terminal.
4) For safety consideration, when change the new test leads, it should use the replace approval test leads.

5-2 Power management

1) Slide the " Function switch " (3-2, Fig. 1) to the the " V " or " Ω " position will be power On.
2) The meter will be power Off automatically within 3 minutes after power On.

5-3 Symbols & units of display

Symbols Units	Descriptions
SMART	Appears when selecting " Smart " mode. The meter default mode is " Smart "
	Appears when selecting DC mode. (DC voltage)
	Appears when selecting AC mode. (AC voltage)
	Power voltage is already under the low condition.
	Appears when the " Continuity beeper " is operated.
V	Units for voltage measurements.
Ω ,KΩ ,MΩ	Units for resistance measurements.
nF,uF	Units for " Capacitance " measurement.
	Appears when the " Diode " function is operated.
—	Appears when measuring a DCV value is negative.
oL	Over range indicator

5-4 Voltage (ACV/DCV) measurement

1) Connect BLACK test lead into " COM " terminal (3-4, Fig. 1).
2) Connect RED test lead into " V " terminal (3-3, Fig. 1).
3) Select the " Function switch " (3-2, Fig. 1) to the " V " position.
4) The meter can measure the ACV, DCV value automatically and with auto range selection.

5-5 Resistance measurement

1) Connect BLACK test lead into " COM " terminal (3-4, Fig. 1).
2) Connect RED test lead into " Ω " terminal (3-3, Fig. 1).
3) Select the " Function switch " (3-2, Fig. 1) to the " Ω " position.
4) The meter can measure the resistance value automatically and with auto range selection.

5-6 Continuity, Diode measurement

Continuity measurement

1) Connect BLACK test lead into " COM " terminal (3-4, Fig. 1).
2) Connect RED test lead into " Ω " terminal (3-3, Fig. 1).
3) Select the " Function switch " (3-2, Fig. 1) to the " •)) " position.
4) When the resistance value is less than 10 ohm, the beeper sound will be generated, the Display will show " •)) " indicator.

Diode measurement

1) Connect BLACK test lead into " COM " terminal (3-4, Fig. 1).
2) Connect RED test lead into " Ω " terminal (3-3, Fig. 1).
3) Select the " Function switch " (3-2, Fig. 1) to " → " position.
4) a. When connected with polarity as shown in Fig. 2, a forward current flow is established and the approx. Diode Forward Voltage (VF) value in volt will appears on the display reading. If the diode under test is defective, " .000 " or near " .000 " value (short circuit) or " oL " (open circuit) will be displayed.

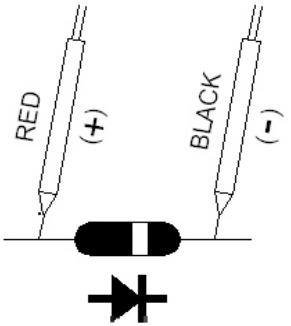


Fig. 2

b. When connected as shown in Fig. 3, a reverse check on the diode is made. If the diode under test is good, " oL " will be displayed. If the diode under test is defective, " .000 " or other numbers will be displayed. Proper diode testing should include both steps a. and b. above.

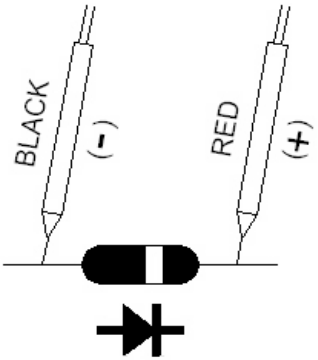
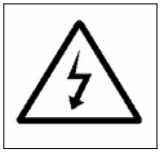


Fig. 3

5-7 Capacitance Measurement

1) Connect BLACK test lead into " COM " terminal (3-4, Fig. 1).
2) Connect RED test lead into " Ω " terminal (3-3, Fig. 1).
3) Select the " Function switch " (3-2, Fig. 1) to the " ⊣⊢ " position.
4) The meter can measure the capacitance value automatically and with auto range selection.

6. MAINTENANCE



Caution : ***Remove test leads before opening the battery cover or housing case !***

6-1 Cleaning

Caution : ***Cleaning - Only use the dry cloth to clean the plastic case !***

6-2 Replacement of batteries

1) When use the battery power, if the Display show Low battery indicator "  " , it need to change the batteries.
2) open the " Battery Cover " (3-7, Fig. 1) away from the instrument and remove the battery.
3) Replace with batteries (DC 3V, CR2032 X 2 PCs) and reinstate the cover.
   **** When install the batteries, should make attention the battery polarity.***
4) Make sure the battery cover is secured after changing the batteries.

7. PATENT

CHINA : ZL200620012764.3

GERMANY : Nr.202006007329.9

TAIWAN : M299401

JAPAN : 3130269

U.S.A. : PATENT PENDING

8. THE ADDRESS OF AFTER SERVICE CENTER