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INTRODUCTION

The UT92 a kind of Green Meter which is particular designed to meet the requirement of protecting the natural environment. It is equipped with a special feature which is ecologically beneficial. A so called High Capacity (High Cap) is used for power supply in this multi-meter instead of batteries or accumulators. The meter has a built-in convertor which transforms the alternating current into necessary current which charges the High Cap. It is also possible to charge the High Cap directly with Direct Current, therefore the multi-meter can work continuously.

The meter's tooling is made by non-poisoned and recycled material, therefore no chemical pollution may caused. Green multi-meter is a new generation multi-meter which will be widely used in the coming future. It can be used for laboratory testing, different workshops, industry repairing, etc.

1. SAFETY RULES AND WARNING

1.1 Do not operate the unit before the cabinet has been closed and screwed safely as terminal can carry voltage.

1.2 Make sure before each measurement the unit is set to the right range.
1.3 Check before each measurement the measuring unit & your test leads to make sure they are not damaged.
1.4 Put the red and black test probes to the correct measuring sockets to ensure connection is fine.
1.5 Do not input the value over the maximum range of each measurement, otherwise unit may be damaged!
1.6 Never turn the rotary function switch during Voltage and Current measurement, as otherwise the measuring unit could be destroyed and this could be dangerous to life.
1.7 Make sure to use new fuses of the proper rating. Do not use repaired fuses and do not bridge the fuse holders.
1.8 To avoid an electrical shock or damage, do not apply more than 500VDC/VACrms between the V/Ω terminal of the measuring unit and the earth ground.
1.9 Pay special caution when working with voltage above 50V(DC) and 36V(AC).
1.10 Charging is necessary & immediately to make sure the accuracy of the unit when the LCD displays "".
1.11 Turn off the unit once measuring is finished.
1.12 Do not use this measuring unit in environments or rooms with adverse environmental conditions especially misty area.
1.13 To avoid damage and dangerous, don't change the circuit.
1.14 Use only dry cloth to clean this DMM no chemical solution.

2. GENERAL FEATURES

2.1 Maximum Display: "1999" (3 1/2 digits)
2.2 Accuracy of DC Current: ±0.5%
2.3 Overrange Display: Maximum value "1"
2.4 Max. Measurement Rate: 2 to 3 Measurements per second
2.5 Low Battery Voltage Display: ""
2.6 Overload protection
2.7 Operating Temperature: 0℃-40℃ (32℉-104℉)
Relative Humidity: <75%
Storing Temperature: -10℃-50℉(14℉-122℉)
Relative Humidity: <80%
2.8 Energy: Solar Energy.
2.9 Dimension: 17.8×8.3×3.3cm(L×W×H)
2.10 Weight: Approximately 240 gram (exclude testing probes)

3. ELECTRICAL

Accuracy: +(a% reading + digits), One Year Warranty.
Operating Temperature: 23℃+5℃, Relative Humidity<75%.

Mode	Range	Resolution	Accuracy ±(a% reading + digits)	Max. Protection	Comment
V ⎓	200mV	100μV	±(0.5%+2)	230Vrms	Input Resistance 10MΩ
	2V	1mV		1000VDC 750VAC	
	20V	10mV			
	200V	100mV			
	1000V	1V	±(0.8%+3)		
V ∿	2V	1mV	±(0.8%+5)	1000VDC 750VAC	Input Resistance 10MΩ Frequency: 40∽400Hz
	20V	10mV			
	200V	100mV			
	750V	1V	±(1.0%+5)		
A ⎓	2mA	1μA	±(1.0%+2)	Fuse 0.2A 250V 20A 250V	
	20mA	10μA			
	200mA	100μA			
	20A	10mA	±(1.2%+5)		Measurement not last more than 15 seconds
A ∿	2mA	1μA	±(1.2%+5)	Fuse 0.2A 250V	Frequency: 40∽400Hz Measurement of 20A not last more than 15 seconds
	20mA	10μA			
	200mA	100μA			
	20A	10mA	±(2%+5)	10A 250V	
Ω	200Ω	1Ω	±(0.8%+3)	230Vrms	Voltage at open circuit about 2.8V
	2kΩ	10Ω			Voltage at open circuit about 0.3V
	20kΩ	100Ω			
	200kΩ	1kΩ			
	2MΩ	10kΩ			
	20MΩ	10kΩ	±(1.2%+5)		
⊣⊢	⊣⊢	1mV		230Vrms	Voltage at open circuit about 3V
♫	♫	1Ω		230Vrms	Audible signal for resistance <100Ω

4. FUNCTIONAL PANEL

4.1 LCD.....①
4.2 Solar Energy Panel.....②
4.3 VΩ: V⎓, Ω, ⊣⊢, ♫, Voltage & Resistance & CHARGE input
socket.....③
4.4 COM: Test Probes socket.....④
4.5 20A: 200mA∽10A current input socket.....⑤
4.6 mA: Below 200mA current input socket.....⑥
4.7 Range Switch.....⑦
4.8 Power Switch.....⑧

5. MEASURING PROCEDURE

If there is no display or "🔋" is shown on the LCD after connecting, then go to the Charging Section of this manual to re-charge the measuring unit or charging of the High-Cap (High Capacity Capacitor).

The ⚠ display next to the test probes socket is a warning to you not to input the value of Voltage and

Current higher than the maximum.
Besides, please set the rotary function to proper position you want to do measurement before switching on.

5.1 *Charging of the 'high cap' capacitor*

5.1.1 Greater than 12 Volt AC source (Wall Socket).
a) Set rotary function switch to position 'CHARGE 230VAC MAX'.
b) Connect the black test probe to the "COM" socket and the red test probe to the "V" socket.
c) Connect the test probes to the 220V AC sockets.
d) Please wait! LCD displays negative value and this value
is increasing until near-6V. Then re-charging is done.

5.1.2 Less than 12 Volt AC or 12 Volt DC source.
a) Set rotary function switch to position 'CHARGE AC, DC 9 TO 12 V'.
b) Connect the black test probe to the "COM" socket and the red test probe to the "V" socket.
c) Connect the test probes to 9 to 12V AC/DC voltage source.
d) Please wait! LCD displays negative value and this value is increasing unit near-6V. Then re-charging is done.

5.1.3 Choose either of these two re-charging methods. The unit can be operated continuously up to one hour after totally re-charged.

5.1.4 If there is no source of energy, place the unit under sunshine. After a while, the current from the solar cell can provide energy to operate the unit.

⚠ATTENTION

To avoid the LCD damaged from fierce sunshine, block part of the LCD when re-charging.

5.2 *Voltage Measurement VDC*

5.2.1 Connect the black test probes to the "COM" socket and the red test probes to the "V/Ω" socket.

5.2.2 Set the rotary switch to "V⎓"

5.2.3 Connect the test probes across the object to be measured.

5.2.4 LCD shows the measuring value.

⚠ATTENTION

a) If magnitude of the current is unknown, always start with the highest range and then to lower range until satisfactory reading is obtained.
b) Do not exceed the maximum input limits-Maximum 1000VDC.

5.3 *Voltage Measurement VAC*

5.3.1 Set the rotary switch to 'V~'.

5.3.2 The rest of the procedure is same as VDC Measurement.

5.4 *CURRENT MEASUREMENT DC*

5.4.1 Connect the black test probes to "COM" socket. If measuring below 200mA, then connect the red test probe to the mA socket. Connect to the 20A socket if measuring is between 200mA and 20A.

5.4.2 Set the rotary function switch to 'A⎓'.

5.4.3 Connect the test probes in series with the object to be measured.

⚠ATTENTION

a) If magnitude of the current is unknown, always start with the highest range and then to lower range until satisfactory reading is obtained.

b) Current measurement of mA should not be overloaded, otherwise 0.2A fuse will burn. it needs to be replaced with a new fuse with specification of 0.2A(5×20mm)

c) Current measurement of 20A should not overload, otherwise 20A fuse burn. it needs to be replaced with a new fuse with specification of 20A(6×30mm)

5.5 *Current Measurement AC*

5.5.1 Set the rotary function switch to 'A~'

5.5.2 The rest of the procedure is same as DC Current Measurement.

5.6 *Resistance Measurement*

5.6.1 Connect the black test probe to COM socket and the red test probe to V/Ω socket.

5.6.2 Set the rotary function switch to 'Ω'

5.6.3 Connect the test probes to the device being measured.

⚠ATTENTION

a) As soon as '1' is displayed, you exceeded the measuring range.

b) Make sure all objects, circuits and componets to be measured are without voltage supplied.

c) For resistors over 1 MΩ, the display needs a few seconds to stabilize. It is normal.

5.7 *Continuity Check and Diode Test*

5.7.1 Connect the black test probe to the "COM" socket and

the red test probes to the V/Ω socket.

5.7.2 Set the rotary function switch to "⊣◀".

5.7.3 Connect the test probes with the object to be measured.

5.7.4 If the line resistance is less than 1000hm an acoustic signal is emitted. It can be used to check the continuity quickly.

⚠ATTENTION

a) Never measure capacitors which carry voltage, as a possible discharge could destroy your measuring unit.

⚠SAFE USE OF MULTITESTER

Be sure to follow the WARNINGS in this manual. Erroneous use may put human bodies in danger. The following legend applies to this manual:

⚡ Dangerous voltage (Take care not to get an electric shock in voltage measurement).

⏚ Ground (Allowable applied voltage range between the input terminal end earth).

⚠ Refer to instruction Manual (Very important description for safe use).

⎓ Direct current (DC)

∿ Alternating current (AC)

▭ Fuse