



UT531 UT532 UT533 Users Manual

Insulation Resistance Multimeters

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Table of Contents	
Title	Page
Introduction	 5
Safety Information ————————————————————————————————————	5
Unpacking Inspection	9
The Meter Structure	10
Rotary Switch Positions —-—	—- 11
Buttons — Understanding the Display — Understanding the Display	—- 13
Understanding the Display —-—-	—-—- 17
Making Basic Measurements Measuring AC Voltage	20
Measuring AC Voltage	<u>20</u>
Measuring DC Voltage	23
Measuring DC Millivolts ————————————————————————————————————	<u>25</u>
Measuring Resistance and Capacitance — - — -	<u>27</u>
Measuring Resistance	
Measuring Capacitance Testing for Capting its	29
Testing for Continuity	31
Macauring AC or DC Current	33
Measuring AC or DC Current	—-—- 35
Measuring Frequency ————————————————————————————————————	38
Testing Insulation—-—	
	—-—— A7



Title	Page
Cleaning	45
Replacing the Batteries —-—-—-	46
Replacing the Fuse ————————————————————————————————————	—-—-—-
Specifications	 49
Electrical Specifications —-—-	—-—-
AC Voltage Measurement	—-—-
DC Voltage Measurement	<u>51</u>
DC Millivolts Measurement	
AC Current Measurement — — — — — — — — — — — — — — — — — — —	—-—-
DC Current Measurement———————————————————————————————————	—-—-
Ohms Measurement —-—-—-	—-—-
Capacitance — - — - — - — - — - — - — - — - — - —	
Diode Test	₅₃
Continuity Test	53
Temperature Measurement	 53
Frequency Measurement	₅₄
• At mV == Range	54
At DCV/ACV Range —	—-—-
Insulation Specifications ——————————	55
• UT531	—-—-
• UT532	 56
• UT533	—-—-



List o	f Tables	•	
Table	Title	Pa	ge
1. 2. 3. 4. 5. 6.	Symbols		3 9 12 14 18 19



f Figures 🔪	
Title	Page
The Meter Structure —	10
Rotary Switch	—-—-— 11
Buttons —	—-—- 13
Ziopiaj iliaioatolo	—-—- 17
	2 0
	23
	2 5
Measuring Resistance ————————————————————————————————————	
Measuring Capacitance ————————————————————————————————————	
Testing for Continuity — - — - — - — - — - — - — - — - — -	31
Testing Diodes ————————————————————————————————————	33
Measuring AC or DC Current	35
Measuring Frequency —-—-—-	38
Measuring Temperature—-—-—-—-	40
Testing Insulation ————————————————————————————————————	74
Replacing the Fuse and Battery —-—-	46
	Title The Meter Structure ————————————————————————————————————



Introduction

The UNI-T Models UT531, UT532 and UT533 are battery-powered, true RMS insulation multimeters (hereafter "the Meter") with 6000 count display.

The Meter measures or tests the following:

- AC/DC voltage and current
- Resistance
- Voltage and current frequency
- Diode
- Continuity
- Capacitance
- Temperature (Model 532 and UT533 only)
- Insulation Testing

Safety Information

These Meters meet CAT III 1000V and CAT IV 600V IEC61010 standards: in pollution degree 2 and double injection.

CAT III: Distribution level, fixed installation, with smaller transient overvoltages than CAT IV.



CAT IV: Primary supply level, overhead lines, cable systems etc.

Use the Meter only as specified in this users manual. Otherwise protection provided by the Meter may be impaired. See Table 1 for a list of symbols used on the Meter and in this manual.

A **Warning** identifies hazardous conditions and actions tha could cause bodily harm or death.

A **Caution** identifies conditions and actions that could damge the Meter, the equipment under test, or cause permanent loss of data.

Marning

To avoid possible electric shock or personal inquiry, follow these guidelines:

- Use the Meter only as specified in this manual or the protection provided by the Meter might be impaired.
- Do not use the Meter or test leads if they appear damaged, or if the Meter is not operating properly. If in doubt, have the Meter serviced.
- Always use the proper terminal, switch position, and range for measurements before connecting Meter to circuit under test.



- Verify the Meter's operation by measuring a known voltage.
- Do not apply more than the rated voltage as marked on the Meter, between the terminals or between any terminal and earth ground.
- Use caution with voltages above 33V ac rms, 46.7V ac Peak, or 70V dc. These voltages pose a shock hazard.
- Replace the battery as soon as the low battery indicatory (➡) appears.
- Disconnect circuit power and discharge all high-voltage capacitors before testing resistance, continuity, diodes, or capacitance.
- Do not use the Meter around explosive gas or vapor.
- When using the test leads, keep your fingers behind the finger guards.
- In order to comply with the safety standard, the Meter must be used along with the included test leads. Any damages of the test lead, must replace it with the same model number and specification.
- Remove test leads from the Meter before opening the Meter case or battery door. Never operate the Meter with the cover removed or the battery door open.
- Comply with local and national safety requirements when working in hazardous locations.
- Under the influence of Radio-Frequency Electromagnetic Field & Conducted Radio-Frequency Electromagnetic Field phenomenon. The captioned model have a magnificent error in function measurement. It will be back to normal when the interference is removed.



- Use proper protective equipment, as required by local or national authorities when working in hazardous areas.
- Avoid working alone.
- User only the replacement fuse specified or the protection may be impaired.
- Check the test leads for continuity before use. Do not use if the readings are high or noisy.
- Do not use current terminals or current range to test voltage.

Table 1. Symbols

	Double Insulated	÷	Earth Ground
~	AC (Alternating Current)	==	DC (Direct Current)
→	Diode	[] 1	Battery (Low battery when shown
7			on display)
٠))		R	AC or DC (Alternating Current or
••••	Continuity Buzzer	~	Direct Current)
Conforms to Standard of European Union			



Unpacking Inspection

Open the package case and take out the Meter. Check the following items carefully to see any missing or damaged part:

Table 2. Unpacking Inspection

Users Manual	1 piece
Test Lead	1 pair
Short Lead	1 pair
Alligator Clip	1 pair
K type thermocouple (UT532 and UT533 only)	1 piece
Batteries AA (AM3/LR6)	6 pieces

In the event you find any missing or damage, please contact your dealer immediately.



The Meter Structure 1. Front Housing 2. LCD Display 3. Functional Buttons 4. Rotary Switch 5. Input Terminals C€

Figure 1. The Meter Structure



Rotary Switch Positions

Turn the Meter on by pressing the **POWER** button. Use the **BLUE** button to select any rotary switch alternate functions (labeled with blue letters). Rotary switch selections are shown in Figure 2 and described in Table 3.

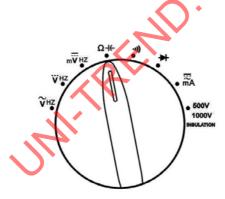


Figure 2. Rotary Switch



Table 3. Rotary Switch Selections

Switch Position	Measurement Function
V∼	AC voltage from 60mV to 1000V.
V 	DC voltage 1mV to 1000V.
mV 	DC mV 0.01mv to 600mV
(UT532 and UT533 only)	Temperature from -40°C to +537°C (-40°F to +998°F). Celsius is the
(81882 and 81888 offiny)	default temperature measurement unit.
Ω-1-	Ohms from 0.1 to 40M.
227 F	Capacitance from 0.01nF to 100 μF.
(۱۰-	Continuity test. Beeper turns on at <30
→	Diode test. There is no ranging in this function.
	DC mA from 0.01mA to 600mA (600mA overload for 2 minutes
mA≂	maximum)
	AC mA from 3mA to 600mA (600mA overload for 2 minutes maximum),
	Press to perform insulation test
insulation	UT531: From 0.5M to 600M. Select 500V and 1000V testing voltage.
	UT532: From 0.2M to 2G. Select 250V, 500V and 1000V testing
	voltage.
	UT533: From 0.1M to 2G. Select 50V, 100V, 250V, 500V and 1000V
	testing voltage.



Buttons

Use the buttons to activate features that augment the function selected with the rotary switch. The buttons are shown in Figure 3 described in Table 4.

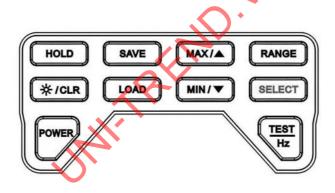


Figure 3. Buttons



Table 4. Buttons

Button	Description
POWER	Press POWER to turn on the Meter. Press and hold POWER to turn off the Meter
HOLD	In insulation Test mode, this schedules a test lock the next time you press TEST on the Meter. The test lock acts to hold down the button until you press HOLD or TEST again to release the lock. In order measurement mode: Press to freeze the displayed value. Press again to release the display.
∜/CLR	Press and hold the button to clear the stored data. Press the button to turn the backlight on and off.
SAVE	Press this button to store the single record. Press and hold this button to store data continuously. Press SAVE again to exit continuous data storing mode. The maximum number of data store is 99 sets. The Meter displays FULL when it reaches the maximum. Press CLR to clear the stored data in order to store next set of data



Table 4. Buttons

Button	Description
LOAD	 Press this button once to recall the stored value. Press or to recall the previous or next stored value. Press LOAD again to exit data recall mode. Press and hold this button to recall the stored data continuously. Press LOAD again to exit. After entering the Load mode, it is not allowed to turn the rotary switch to enter to measuring mode. You can only enter the measuring mode after exiting the Load mode.
MAX /▲	In Measurement mode, except buzzer, diode and insulation test, press to start retaining maximum value. In Load, each press to go back to the previous stored reading
MIN /▼	In Measurement mode, except buzzer, diode and insulation test, press to start retaining minimum value. In Load, each press to recall the next stored reading.
RANGE	In Insulation Test mode, press to select different testing voltage. In other mode, except buzzer and diode, press to change Ranging



Table 4. Buttons

Button	Description
RANGE	mode from Auto to Manual Ranging mode. Press and hold to return to Auto Ranging mode.
SELECT	Functions as a shift key. Press to access orange functions on the rotary switch.
TEST Hz	Initiates an insulation test when the rotary switch is on the INSULTION position. Causes the Meter to source (output) a high voltage and measure insulation resistance. InMeasurement mode, activate frequency measurement.



Understanding the Display

Display indicators are shown in Figure 4 and described in Table 5.

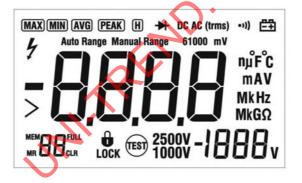


Figure 4. Display Indicators



Table 5. Display Indicators

Indicator	Description
MAX	Indicates maximum reading has been selected.
MIN	Indicates minimum reading has been selected.
Н	Indicates display hold is active
→	Diode test function is selected
DC AC	AC / DC Voltage or Current measurement
trms	True RMS measurement
· ›))	Continuity test function is selected
:	Low battery. Indicates when it is time to replace the battery. A Warning To avoid false readings, which could lead to possible electric shock or personal injury, replace the battery as soon as the low battery indicator appears
4	High voltage warning
Auto Range	Auto ranging mode
Manual Range	Manual ranging mode



Table 5. Display Indicators

Indicator	Description
61000mV	Display range in use
_	Negative symbol
>	Greater than symbol •
8,8,8,8	Primary display
MEM	Data store symbol
MR	Data recall symbol
	The number of stored data
FULL	When the number of stored data reaches 99, the display will show FULL.
	When the number of stored data is full, press CLR to clear up the stored data before
	storing another set of data
CLR	Clear up the stored data
A	Indicates a test lock will be applied the next time you press TEST on the Meter. The
LOCK (TEST)	test lock acts to hold down the button until you press HOLD or TEST again.
	Source voltage rating for insulation test.
2500V	UT531: 500V and 1000V ranges available.
1000V	UT532: 250V, 500V and 1000V ranges available.
	UT533: 50V, 100V, 250V, 500V and 1000V ranges available.
-1080√	Secondary Display
AGE AGE Maga Maga	Measurement units



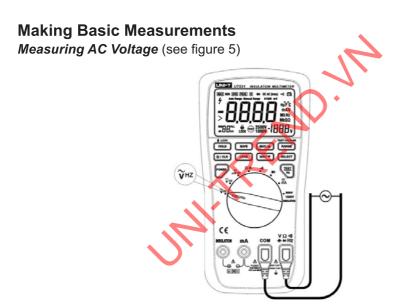


Figure 5. Measuring AC Voltage



⚠ Warning

To avoid harm to you or damages to the Meter from electric shock, please do not attempt to measure voltages higher than 1000V although readings may be obtained.

The AC Voltage ranges are: 6.000V, 60.00V, 600.0V and 1000V. If over the range, it displays"OL". To mesaure AC voltage, connect the Meter as follows:

- 1. Insert the red test lead into the VΩ H → Hz terminal and the black test lead into the COM terminal.
- 2. Set the rotary switch to V~
- 3. Connect the test leads across with the object being measured. The measured value shows on the display.
- 4. The displayed value is True RMS.



Note:

- If the value of voltage to be measured is unknown, set the Meter to autoranging or use the maximum measurement position 1000V and reduce the range step by step until a satisfactory reading is obtained.
- In each range, the Meter has an input impedance of $10M\Omega$. This loading effect can cause measurement errors in high impedance circuits. If the circuit impedance is less than or equal to $10k\Omega$, teh error is negligible (0.1% or less).
- When DC voltage measurement has been completed, disconnect the connection between the testing leads and the circuit under test, and remove the testing leads away from the input terminals of the Meter.



Measuring DC Voltage (see figure 6)



Figure 6.Measuring DC Voltage



. Warning

To avoid harm to you or damages to the Meter from electric shock, please do not attempt to measure voltages higher than 1000V although readings may be obtained.

The DC Voltage ranges are: 6.000V, 60.00V, 600.0V and 1000V. If over the range, it displays"OL". To mesaure DC voltage, connect the Meter as follows:

- Insert the red test lead into the VΩ I(-) Hz terminal and the black test lead into the COM terminal.
- 2. Set the rotary switch to $\sqrt[V]{\cdots}$.
- Connect the test leads across with the object being measured. The measured value shows on the display.

Note:

- If the value of voltage to be measured is unknown, set the Meter to autoranging or use the maximum measurement position 1000V and reduce the range step by step until a satisfactory reading is obtained.
- In each range, the Meter has an input impedance of $10M\Omega$. This loading effect can cause measurement errors in high impedance circuits. If the circuit impedance is less than or equal to $10k\Omega$, teh error is negligible (0.1% or less).
- When DC voltage measurement has been completed, disconnect the connection between the testing leads and the circuit under test, and remove the testing leads away from the input terminals of the Meter.



Measuring DC Millivolts (see figure 7)



Figure 7. Measuring DC Millivolts



$ilde{M}$ Warning

To avoid harm to you or damages to the Meter from electric shock, please do not attempt to measure voltages higher than 500V, otherwise you cannot obtain correct reading.

The DC Millivolts ranges are: 60.000mV and 600.0mV. If over the range, it displays "OL". To mesaure DC Millivolts, connect the Meter as follows:

- 1. Insert the red test lead into the VΩ (COM terminal).
- 2. Set the rotary switch to mV ...
- 3. Connect the test leads across with the object being measured. The measured value shows on the display.

Note:

- The maximum input impedance is 4000MΩ.
- When DC Millivolts measurement has been completed, disconnect the connection between the testing leads and the circuit under test, and remove the testing leads



Measuring Resistance and Capacitance ● Measuring Resistance (see figure 8)



Figure 8. Measuring Resistance



riangleWarning

To avoid electric shock, injury, or damage to the Meter, disconnect circuit power and discharge all high-voltage capacitors before testing resisitance.

The Resistance ranges are 600.0Ω , $6.000k\Omega$, $600.0k\Omega$, $600.0k\Omega$, $6.000M\Omega$ and $40.00M\Omega$

To measure resistance, connect the Meter as follows:

- Insert the red test lead into the VΩIC → Hz terminal and the black test lead into the COM terminal.
- 2. Set the rotary switch to- $\mathbf{I} \leftarrow \Omega$. Resistance measurement is default or press **SELECT** button to select Ω measurement mode.
- 3. Connect the test leads across with the object being measured. The measured value shows on the display.

Note:

 When Resistance measurement has been completed, disconnect the connection between the testing leads and the circuit under test, and remove the testing leads away from the input terminals of the Meter.



• **Measuring Capacitance** (see figure 9)



Figure 9. Measuring Capacitance



⚠ Warning

To avoid electric shock, injury, or damage to the Meter, disconnect circuit power and discharge all high-voltage capacitors before testing capacitance. Use the DC Votlage function to confirm that the capacitor is discharged.

The Capacitance ranges are 10.00nF, 100.0nF, 1000nF, 10.00 μF and 100.0μF

To measure capacitance, connect the Meter as follows:

- Insert the red test lead or red short lead with alligator clip into the VΩ-I←→+Hz terminal and the black test lead or black short lead with alligator clip into the COM terminal. If the capacitor being tested has polarity, connect the positive into the VΩ-I←→+Hz terminal and the negative into the COM terminal
- 2. Set the rotary switch to Ω **H**. Press **SELECT** button to select capacitance measurement mode
- 3. Connect the test leads across with the object being measured. The measured value shows on the display.

Note:

 When Capacitance measurement has been completed, disconnect the connection between the testing leads and the circuit under test, and remove the testing leads away from the input terminals of the Meter.



Testing for Continuity (see figure 10)



Figure 10.Testing for Continuity



$ilde{M}$ Warning

To avoid electric shock, injury, or damage to the Meter, disconnect circuit power and discharge all high-voltage capacitors before testing continuity.

To measure capacitance, connect the Meter as follows:

- Insert the red test lead into the VΩ-I←→+ Hz terminal and the black test lead into the COM terminal.
- 2. Set the rotary switch to .
- 3. Continuous audible tone for test resistance below 30Ω

Note:

 When Continuity measurement has been completed, disconnect the connection between the testing leads and the circuit under test, and remove the testing leads away from the input terminals of the Meter.



Testing Diodes (see figure 11)



Figure 11. Testing Diodes



⚠ Warning

To avoid electric shock, injury, or damage to the Meter, disconnect circuit power and discharge all high-voltage capacitors before testing diodes.

To measure diode, connect the Meter as follows:

- Insert the red test lead into the VΩ-I←→+ Hz terminal and the black test lead into the COM terminal.
- 2. Set the rotary switch to → .
- For forward voltage drop readings on any semiconductor component, place the red test lead on the component's anode and place the black test lead on the componet's cathode.

The measured value shows on the display.

Note:

- In a circuit, a good diode should still produce a forward voltage drop reading of 0.5V to 0.8V; however, the reverse-voltage drop reading can vary depending on the resistance of other pathways between the probe tips.
- Connect he test leads to the proper terminal as said above to avoid error display. The LCD will display OL indicating diode being tested is open or polarity is reversed.
- The unit of diode is Volt (V), displaying the forward voltage drop readings.
- When Diode measurement has been completed, disconnect the connection between the testing leads and the circuit under test, and remove the testing leads away from the input terminals of the Meter.



Measuring AC or DC Current (see figure 12)



Figure 12.Measuring AC or DC Current



$ilde{\Delta}$ Warning

To avoid personal injury or damage to the Meter:

- Never attempt to make an in-circuit current measurement when the opencircuit potential to earth is greater than 600V.
- Inspect Meter's fuses before testing. Broken fuses may damage to the Meter or hurt yourselves
- Use the proper terminals, switch position, and range for your measurement.
- Never place the probes in parallel with circuit or component when the leads are plugged into the current terminals.

The current ranges are 60.00mA and 600.0mA.

To measure current, connect the Meter as follows:

- Insert the red test lead into the mA terminal and the black test lead into the COM terminal.
- 2. Set the rotary switch to mA $\overline{\sim}$. DC Current is default. Press **SELECT** to toggle to AC current measurement mode.
- 3. Connect the test leads across with the object being measured. The measured value shows on the display.
- 4. AC Current displays True RMS value.



Note:

- If the value of current to be measured is unknown, set the Meter to autoranging or use the maximum measurement position 600.0mA and reduce the range step by step until a satisfactory reading is obtained.
- For safety sake, when measuring high current, each measurement time must be less than 10 seconds with an interval more than 15 minutes.
- When Current measurement has been completed, disconnect the connection between the testing leads and the circuit under test, and remove the testing leads away from the input terminals of the Meter.



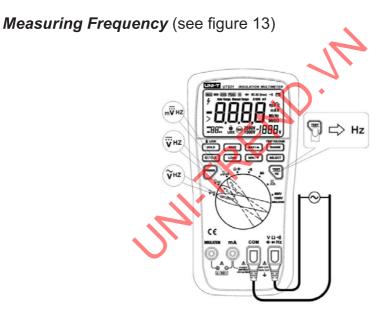


Figure 13. Measuring Frequency



- Press Hz button to select frequency measurement mode at m V~ or V~ or V mPress Hz to exit frequency measurement mode and return to the previous measurement mode.
- The maximum range of frequency is 1MHz.
- The signal attenuation is different from different measuring position and range.
 Therefore the required signal input amplitude and range may be different from different measuring position and range.
- It is recommended to use mV ... range which has higher input sensitivity.
- When using current range to measure frequency, it is required to input singal more than 30% of full range. The reading obtained is only for reference.

Note:

 When Frequency measurement has been completed, disconnect the connection between the testing leads and the circuit under test, and remove the testing leads away from the input terminals of the Meter.



Measuring Temperature (UT532 and UT533 only) (see figure 14)



Figure 14. Measuring Temperature





To avoid risk of shock do not connect thermocoupple to electrically live circuits.



To avoid possible damage to the Meter or other equipment, remember that while the Meter is rated for -40°C to 537°C (-40°F to 998°F), the included K-type thermocouple is rated for 260°C (500°F). For temperature out of that range, use a higher rated thermocouple.

To measure temperature, connect the Meter as follows:

- Insert the red thermocouple into the VΩ-I(-→+ terminal and the black thermocouple into the COM terminal.
- 2. Set the rotary switch to mV.
- 3. Press **SELECT** to choose temperature range.
- 4. Press **RANGE** to toggle between degrees Celsius (°C) or degrees Fahrenheit (°F).
- 5. Place the thermocouple to the object being measured. The measured value shows on the display.



Testing Insulation (see figure 15)



Figure 15.Testing Insulation



Marning

Make sure the circuit to be tested is dead before taking measurement. Never measure the insulation resistance of live equipment or circuit. Never touch the circuit after meaurement, as the capacitance to be saved on the circuit may cause electric shock.

Insulation tests should only performed on dead circuits. Check the fuse before testing.

To measure insuulation resistance, set up the Meter as shown in Figure 15 amd follow the steps below:

- 1. Insert the red short lead with alligator clip in the **INSULATION** input terminal and the black short lead with alligator clip in the **mA** input terminal.
- 2. Turn the rotary switch to **INSULATION** position.
- 3. Press **RANGE** to select he voltage.
- 4. Connect the probes to the circuit to be measured. There are two methods to start the insulation test:



- Press HOLD button to disable LOCK mode. Press and hold TEST to start the insulation test until TEST button is released
- Press HOLD button to enter LOCK mode. Press TEST once to start the insulation test until pressing HOLD or TEST again to release LOCK mode.
- 5. Push and hold **TEST** button to start the test, the secondary display shows the test voltage applied to the circuit under test. The high voltage symbol along with a primary display showing the resistance in $M\Omega$ or $G\Omega$. The TEST icon appears on the lower portion of the display.
- 6. When releasing the **TEST** button, LCD will not appear TEST icon. The resistance reading appears on the primary display until a new test is started or a different function or range is selected.



⚠ Caution

The following improper operating procedure may force the Meter to power off automatically. To avoid the danager of electric shock and damage to the Meter:

- Replace batteries as soon as battery indicator is on. Initiating high voltage when the battery indicator is on, which may force the Meter to power off.
- Must connect the probe to the circuit being measured before initiating high votlage.
- When under high voltage mode, never turn the rotary switch to other position.
- The testing time of small resistor or short circuit cannot exceed 20 seconds.
- At insulation testing mode with testing voltage initiated, auto power off feature will be disabled until un-initiating the testing voltage.

Cleaning

- Periodically wipe the case with a damp cloth and mild detergent. Do not use abrasives or solvents. Dirt or moisture in the terminals can affect readings.
- Turn the Meter off when it is not in use.
- Do not use or store the Meter in a place of humidity, high temperature, explosive, inflammable and strong magnetic field.
- The internal circuit of the Meter shall not be altered at will to avoid damage of the Meter and any accident.



Replacing the Batteries

Replace the batteries as shown in Figure 16. Follow the steps below to replace the batteries.



Figure 16. Replacing the Fuse and Battery



AWarning

To avoid shock, injury, or damge to the Meter:

- To avoid false readings, which could lead to possible electric shock or personal injury, replace the batteries as soon as the battery indicator

 appears.
- Turn the Meter off and remove the testing leads from the terminals.
- 1. Remove the two screws from the battery door by using a standard screwdriver.
- 2. Open the battery door.
- 3. Remove and replace the batteries. 6pcs of AA (AM3/LR6), standard capacity around 2450mAh.
- 4. Rejoin the case bottom and battery compartment, and reinstall the screw.



Replacing the Fuse

Replace the fuse as shown in Figure 16. Follow the steps below to replace the batteries.

Marning

To avoid shock, injury, or damge to the Meter:

- Use ONLY fuses with the amperage and voltage specified.
- Turn the Meter off and remove the testing leads from the terminals.
- 1. Remove the two screws form the battery door, two screws from the case bottom, one screw at he back of the battery.
- 2. Open the battery door and the case bottom
- Remove the fuse by gently prying one end loose, and take out the fuse from its bracket.
- Install ONLY replacement fuses with identical amperage and votlage specified: F1A 240V
- 5. Rejoin the battery door and the case bottom, and reinstall the screws.
- 6. Do not operate the Meter with the case opened.

Replacement of the fuse is seldom required. Buring of a fuse always results from improper operation.



Specifications

Table 6. General Specifications

Maximum Voltage Applied to any Terminal	1000V rms	
A	1A / 240V Fast Fuse , High breaking	
⚠ mA Input Terminal	capacity Fuse	
Maximum Display	6000, Updates 5 times per second	
Operating Temperature	0°C ~40°C (32°F~104°F)	
Storage Temperature	-10°C ~50°C (14°F~122°F)	
Deletive Housidity	≤75% @ 0°C to below 31°C	
Relative Humidity	≤50% @ 31℃ to above 40℃	
Altitude	Operating: 2000 meter	
Attitude	Storage: 10000 meter	
Batteries	Six AA 1.5V batteries AM3/LR6 (standard	
Datteries	capacity around 2450mAh)	
Low battery	LCD display 🚰	
Auto Power Off	The Meter will be automatically off when the	
Auto i owei oli	Meter is not in use for more than 15 minutes	
Size	97mm x 202mm x 46mm	
Weight Around 505 g (including batteries)		



Electrical Specifications

Accuracy: ±(a % of rdg + b digits), guarantee for 1 years

Operating Temperature: 23℃±5℃

Relative Humidity: <75%

AC Voltage Measurement

Range	Resolution	Accuracy		Input Protection
Range	Resolution	50Hz ~60Hz	60Hz ~ 1kHz	input Protection
6.000V	1mV		± (2%+3)	
60.00V	10mV	± (1%+3)	± (2 /0+3)	1000∨ ≂
600.0V	100mV		+ (20/ +6)	1000 ~
1000V	1V	± (2%+3)	± (2%+6)	

Remarks:

Input Impedance: >10MΩ

Displays effective value of sine wave

• Frequency Response: 50Hz~1kHz



DC Voltage Measurement

Range	Resolution	Accuracy	Input Protection
6.000V	1mV		1
60.00V	10mV	± (0.3%+4)	1000∨ ≂
600.0V	100mV	T (0.3 %+4)	10000 ~
1000V	1V		

Remark:

• Input Impedance: $\geq 10M\Omega$

DC Millivolts Measurement

Range	Resolution /	Accuracy	Input Protection
60.00mV	10μV	± (0.4%+4)	600Vp
600.0mV	100μV	T (0.4 /0+4)	бооур

Remark:

Input Impedance: ≥4000MΩ

AC Current Measurement

Range	Resolution	Accuracy	Input Protection
60.00mA	10μΑ	± /1 50/±2\	Fuee Feet 14 240\/
600.0mA	100μΑ	± (1.5%+2)	Fuse, Fast, 1A, 240V



Remark:

- Displays True RMS value.
- Frequency Response 50Hz ~ 1kHz

DC Current Measurement

Range	Resolution	Accuracy	Input Protection
60.00mA	10μΑ	± (1.0%+2)	Fuse, Fast, 1A, 240V
600.0mA	100μΑ		

Ohms Measurement

Range	Resolution	Accuracy	Input Protection
600.0Ω	0.1Ω		
6.000kΩ	1Ω		
60.00kΩ	10Ω	± (0.9%+2)	600Vp
600.0kΩ	100Ω		000 v p
6.000MΩ	1kΩ		
40.00MΩ	10kΩ	± (1.5%+3)	



Capacitance Measurement

Range	Resolution	Accuracy	Input Protection
10.00nF	10pF		
100.0nF	100pF		
1000nF	1nF	±(3%+5)	600Vp
10.00µF	10 nF		
100.0µF	100nF		

Diode Test

Resolution: 1mV

Input Protection: 500VpOpen circuit voltage: around 3V

Display approximate forward voltage drop nearest value.

Continuity Test

Continuity Indication: Continuous audible tone for test resistance below 30Ω.

Open Circuit Voltage: around 3V
 Input Protection: 500Vp
 Resolution: 0.1Ω



Temperature Measurement (UT532 and UT533 only)

Range	Resolution	Accuracy	Input Protection
-40℃~537℃	1℃	± (1%+10)	600Vp
-40 °F ~998 °F	2 °F	± (1%+18)	

Frequency Measurement

● At mV ... Range

- ALIIIV ••• Nai	ige		
Range	Resolution	Accuracy	Input Protection
60.00Hz	0.01Hz		
600.0Hz	0.1Hz		
6.000kHz	1Hz	± (0.1%+3)	600Vp
60.00kHz	10Hz	± (0.170+3)	Ισουνρ
600.0kHz	100Hz		
1.000MHz	1kHz		

Remark:

Input Sensitivity:

≤When 100kHz: ≤100mV rms

 \geq 30mV rms

>When 100kHz: ≥100mV rms

≤30V rms



At DCV/ACV Range

Range	Accuracy	Input Protection
10Hz~100kHz	± (0.1%+3)	600Vp

Remark:

• Input amplitude: ≥ 600mV rms

Insulation Specifications

UT531

Testing Voltages	Measurement Range	Resolution	Accuracy
500V	0.5MΩ ~99.9MΩ	$0.1 \mathrm{M}\Omega$	
(0% to 20%)	100MΩ ~ 500MΩ	1ΜΩ	± (3%+5)
1000V	$4.0M\Omega \sim 99.9M\Omega$	$0.1 \mathrm{M}\Omega$	± (376+3)
(0% to 20%)	$100M\Omega \sim 600M\Omega$	1ΜΩ	

Remark:

Short-Circuit Test Current less than 2.0mA



UT532

Testing Voltages	Measurement Range	Resolution	Accuracy
250V	0.2M Ω ~ 99.9MΩ	$0.1 \mathrm{M}\Omega$	
(0% to 10%)	100 M Ω ~ 250 M Ω	$1 M\Omega$	
500V (0% to 20%)	$0.5M\Omega \sim 99.9M\Omega$	0 .1MΩ	± (3%+5)
	100ΜΩ ~ 500ΜΩ	1ΜΩ	
1000V (0% to 20%)	4.0MΩ ~ 99.9MΩ	0.1ΜΩ	
	100 M Ω ~ 999 M Ω	1ΜΩ	
	$1.00 M\Omega \sim 2.00 \bar{\Box}\Omega$	10ΜΩ	± (5%+5)

Remark:

Short-Circuit Test Current less than 2.0mA



UT533

Testing Voltages	Measurement Range	Resolution	Accuracy
50V	0.1ΜΩ ~ 50.0ΜΩ	0.1ΜΩ	
(0% to 10%)	0.110122 ~ 30.010122	0.110122	
100V	0.1~100.0MΩ	0.1ΜΩ	
(0% to 10%)			
250V	0.2ΜΩ ~ 99.9ΜΩ	$0.1 \mathrm{M}\Omega$	± (3%+5)
(0% to 10%)	100ΜΩ ~ 250ΜΩ	1ΜΩ	
500V	$0.5M\Omega \sim 99.9M\Omega$	0.1ΜΩ	
(0% to 20%)	100MΩ ~ 500MΩ	1ΜΩ	
1000V (0% to 20%)	4.0MΩ ~ 99.9MΩ	0.1ΜΩ	
	100ΜΩ ~ 999ΜΩ	1ΜΩ	
(0 /0 to 20 /0)	1.00GΩ ~ 2.00GΩ	10ΜΩ	± (5%+5)

Remark:

Short-Circuit Test Current less than 2.0mA



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