

UT123T

Residential Multimeter User manual

Preface

Thank you for purchasing the new UT123T residential multimeter. In order to use this product safely and correctly, please read this manual thoroughly, especially the **Safety Instructions**.

After reading this manual, it is recommended to keep the manual at an easily accessible place, preferably close to the device, for future reference.

Limited Warranty and Liability

Uni-Trend guarantees that the product is free from any defect in material and workmanship within one year from the purchase date. This warranty does not apply to damages caused by accident, negligence, misuse, modification, contamination and improper handling. The dealer shall not be entitled to give any other warranty on behalf of Uni-Trend. If you need warranty service within the warranty period, please contact your seller directly.

Uni-Trend will not be responsible for any special, indirect, incidental or subsequent damage or loss caused by using this device. As some countries or regions do not allow limitations on implied warranties and incidental or subsequent damages, the above limitation of liability may not apply to you.

1. Overview

The UT123T is a pocket-size residential multimeter specially designed for home use. The compact structure makes it easy to hold in one hand, and the EBTN screen allows users to obtain clear readings at maximum angle. The multimeter is complied with EN61010-1:2010, EN61010-2-030:2010, and EN61326-1:2013 safety standards and is able to safely operate within the CAT III 600V environment.

2. Features

- The battery status detection is automatically completed at the moment of booting: The green light indicates the normal state; the yellow light indicates low battery; the red light indicates very low battery, and there is acousto-optic indication at this time.
- Automatic identification of AC/DCV measurement
- Intelligent non-contact electric field detection, which distinguishes the weak electric field by green light, the strong electric field by yellow light, and the super strong electric field by red light
- Full featured protection

▲ Before using the meter, please read the **Safety Instructions** carefully.

3. Safety Instructions

- Do not use the meter if the rear cover is not covered up, or it will pose a shock hazard!
- Before use, please check and make sure the insulation layer of the meter and test leads is in good condition without any damage or broken wires. If you find the insulation layer of the meter housing is significantly damaged, or if you think the meter cannot function properly, do not use the meter.
- When using the meter, your fingers must be placed behind the finger guard ring of the test leads.
- Do not apply voltage over 600V between any meter terminal and earth ground to prevent electric shock and damage to the meter.
- Be cautious when the measured voltage is higher than 60V (DC) or 30Vrms (AC) to avoid electric shock!
- The measured signal is not allowed to exceed the specified limit to prevent electric shock and damage to the meter!
- The range switch should be placed in the corresponding position during measurement.
- Never change the range setting when measuring to avoid damage to the meter!
- Do not change the internal circuit of the meter to avoid damage to the meter and user!
- When the battery symbol appears on the LCD, please replace the batteries in time to ensure measurement accuracy.
- Do not use or store the meter in high temperature and high humidity environments. The performance of the meter may be affected.
- Clean the meter casing with a damp cloth and mild detergent. Do not use abrasives or solvents!
- Measure known voltage with the meter to verify that the meter is working properly. If the meter is working abnormally, stop using it immediately. A protective device may be damaged.
- If the equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired.
- If the test leads need to be replaced, you must use a new one which should meet EN 61010-031 standard, rated CAT III 600V, 10A or better.
- Safety symbol description

	Low battery		Caution, possibility of electric shock
	Earth(ground) TERMINAL		Alternating current
	Caution		Direct current
	Comply with European Union standards		
	Equipment protected throughout by DOUBLE INSULATION or REINFORCED INSULATION		
	Conforms to UL STD. 61010-1, 61010-2-030, 61010-2-033, 61010-2-033		
	Certified to CSA STD. C22.2 NO. 61010-1, 61010-2-030, 61010-2-033		
	It is applicable to test and measuring circuits connected to the distribution part of the building's low-voltage MAINS installation.		

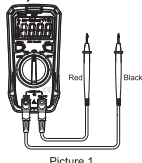
4. Operating Instructions

* The meter has the function of battery self-checking, and can complete the battery status detection within 2 seconds at the moment of booting:

- When the supply voltage is >2.7V, the indicator on the top of the meter lights up green for 2 seconds, indicating that the power is sufficient, and the meter enters the normal measurement mode accompanied by one beep.
- When the supply voltage is within 2.4V~2.7V, the indicator on the top of the meter lights up yellow, and the low battery symbol battery appears on the LCD.
- When the supply voltage is <2.4V, the indicator on the top of the meter lights up red for 2 seconds, and then the meter powers off. It can only be used after replacing the batteries.

4.1 DC/AC Voltage Measurement (Picture 1)

- Turn the range switch to the AC voltage position;
- Insert the red test lead into the "VΩ-4°C" jack, black into the "COM" jack, and make the probes in contact with both ends of the measured voltage (parallel connection to the load);
- Read the test results on the display.



Picture 1

The meter has the function of ACV/DCV automatic identification (voltage >0.5V). If you want to measure voltage less than 0.5V, press the SELECT button to toggle the AC and DC voltage to lock the measurement mode. After pressing the SELECT button, the meter no longer has the function of ACV/DCV automatic identification, unless you turn the range switch or restart the meter!

▲ Note:

- * Do not measure voltage above 600Vrms. Although it is possible to measure higher voltage, it may damage the meter and hurt the user! If the LCD displays "OL", it indicates that the voltage is over range. The input impedance of the meter is 10MΩ. This load effect may cause measurement error when measuring high impedance circuits. If the measured impedance is ≤10kΩ, the error can be ignored (≤0.1%).
- * Be cautious to avoid electric shock when measuring high voltage.
- * Test known voltage before use to confirm if the meter functions properly!

4.2 Resistance Measurement (Picture 1)

- Turn the range switch to the resistance measurement position;
- Insert the red test lead into the "VΩ-4°C" jack, black into the "COM" jack, and make the probes in contact with both ends of the measured resistance (parallel connection to the resistance);
- Read the test results on the display.

▲ Note:

- * Before measuring the online resistance, switch off the power supply of the circuit, and fully discharge all capacitors to avoid damage to the meter and user.
- * If the resistance is not less than 0.5Ω when the test leads are shorted, please check if the test leads are loose or abnormal.
- * If the measured resistor is open or the resistance exceeds the maximum range, the "OL" symbol will appear on the display.
- * Do not input voltage higher than DC 60V or AC 30V.
- * Measured value = measured display value - short circuit value of the test leads

4.3 Continuity Measurement (Picture 1)

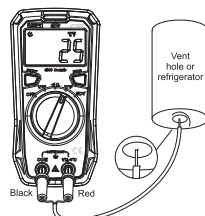
- Turn the range switch to the continuity measurement position;
- Insert the red test lead into the "VΩ-4°C" jack, black into the "COM" jack, and make the probes in contact with the two test points;
- Measured resistance ≤300Ω: The indicator lights up green accompanied by continuous beeps, indicating that the on-resistance is small, and the LCD displays the corresponding resistance value. Measured resistance within 310~4200Ω: The indicator lights up red accompanied by no beep, indicating that the on-resistance is large, and the LCD displays the corresponding resistance value. Measured resistance >4200Ω: The indicator and buzzer have no response, indicating that the circuit is open. The LCD displays "OL".

▲ Note:

- * Before measuring the continuity online, switch off the power supply of the circuit, and fully discharge all capacitors to avoid damage to the meter and user.

4.4 Temperature Measurement (°C/°F Measurement, Picture 2)

- Turn the range switch to the temperature measurement position;
- Insert the plug of the K-type thermocouple into the meter, and fix the temperature sensing probe on the object to be tested; read the temperature value on the display after it is steady.



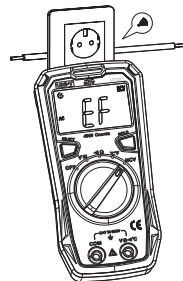
Picture 2

▲ Note:

- * "OL" symbol appears when the meter is turned on. Only K-type thermocouple/temperature sensor is applicable (The measured temperature should be less than 300 °C/572 °F).
- * °F=°C*1.8+32

4.5 Non-contact AC Electric Field Sensing (Picture 3)

- To sense whether there is AC voltage or electromagnetic field, please turn the range switch to the NCV position;
- Bring the front end of the meter close to the measured object to start sensing. The intensity of the electric field sensing is indicated by the LED indicator and the segment "-" on the LCD. The more the segments (up to four segments) are displayed, the higher the electric field intensity and the faster the beep.



Picture 3

4.6 Others

- * During measurement, if there is no operation of the range switch or any button for 15 minutes, the meter will automatically shut down to save power. You can wake it up by pressing any button or turning the range switch, and the buzzer should beep once for indication. To disable auto shutdown, turn the range switch to the OFF position, press and hold the SELECT button (≥2 seconds) while power up the meter.
- * When you press any button or turn the range switch, the buzzer will beep once.
- * Buzzer warning: Input voltage ≥600V (AC/DC): The buzzer beeps continuously warning that the range is at its limit.
- * About 1 minute before auto shutdown, the buzzer will make five consecutive beeps; before shutdown, the buzzer will make one long beep.

5. Specifications

Function	Range	Resolution	Accuracy	Max measured value	Bandwidth	Overload protection	Input impedance
DC voltage	4.000V	0.001V	± (0. 5%+2)	± 600V		600Vrms	10M Ω
	40.00V	0.01V					
	400.0V	0.1V					
	600V	1V	± (0. 7%+3)				
AC voltage	4.000V	0.001V	± (1. 0%+3)	600V	40Hz—400Hz	600Vrms	10M Ω
	40.00V	0.01V					
	400.0V	0.1V					
	600V	1V					
Resistance	400.0Ω	0.1Ω	± (1. 0%+2)	21MΩ		600Vrms	
	4.000kΩ	0.001kΩ	± (0. 8%+2)				
	40.00kΩ	0.01kΩ					
	400.0kΩ	0.1kΩ	± (1. 2%+3)				
	4.000MΩ	0.001MΩ	± (1. 2%+3)				
Centigrade	-40~-40℃	1℃	± 4℃	350℃		600Vrms	
	40~300℃	1℃	± (1. 0%+5)				
Fahrenheit	-40~-104 ℉	1 ℉	± 6 ℉	662 ℉			
	104~572 ℉	1 ℉	± (2. 0%+6)				

When switching to the NCV function, the LCD displays "EF"		
NCV (non-contact voltage detection)	Electric field sensing	When the front end of the meter is close to the power socket or power cord with about 200V mains supply, the meter indicator will distinguish the intensity of the electric field sensing by "green", "yellow" and "red" light respectively (from weak to strong), and the LCD will synchronously display "—", "—", "—" or "—" accompanied by beeps.
	Neutral and live wire identification	When the front end of the meter is close to the mains socket at the same distance, the live wire will have a stronger electric field signal than the neutral wire. You can distinguish them according to the number of the "—" displayed and the indication status of the light.
•II Continuity	Resistance $\leq 30\Omega$, continuous beeps; Resistance $>31\Omega$, no beep	

General specifications	
SELECT button	Switch the scale of the test function cyclically only applicable to $\sqrt{\square}$ -4 Ω $^{\circ}C/^{\circ}F$
HOLD button	Turn on/off the lock screen function cyclically, and the bottom left corner of the LCD displays $\square$ only applicable to $\sqrt{\square}$ -4 Ω $^{\circ}C/^{\circ}F$
Max display	4099
Overload display	OL
Sampling frequency	3 times/second
Polarity display	If negative polarity is input, the "—" symbol will be displayed; No display for positive polarity
Low battery indication	The bottom left corner of the LCD displays " $\triangleleft$ ", and at the moment of booting, the indicator on the top of the meter lights up yellow.

Operating conditions	
Operating temperature	0 $^{\circ}C$ -40 $^{\circ}C$ (32 $^{\circ}F$ -104 $^{\circ}F$)
Storage temperature	-10 $^{\circ}C$ -50 $^{\circ}C$ (14 $^{\circ}F$ -122 $^{\circ}F$)
Relative humidity	0 $^{\circ}C$ ~ below 30 $^{\circ}C$: $\leq 75\%$ 30 $^{\circ}C$ -40 $^{\circ}C$: $\leq 50\%$
Altitude	0-2000m
Battery	AAA battery 1.5V*2

Safety standards	
Design standards	EN61010-1; 2010; EN61010-2-030;2010; EN 61326-1:2013 EN61010-2-033;2012;EN61326-2-2:2013
EMC	RF field (1V/m): Overall accuracy = specified accuracy $\pm 5\%$ of range RF field ($>1V/m$): No specified calculation
Measurement standards	CAT III 600V, double insulation and material pollution degree II
Dimensions	130mm*65mm*28mm
Weight	About 130g (including batteries)

Standard accessories	
Test leads	1 pair
User manual	1 pc
Thermocouple	1 pc

⚠ Note:
To ensure measurement accuracy, operating temperature should be within 18 $^{\circ}C$ -28 $^{\circ}C$ and the fluctuation range should be within $\pm 1^{\circ}C$.
Temperature $<18^{\circ}C$ or $>28^{\circ}C$: Add temperature coefficient error 0.1 x (specified accuracy)/ $^{\circ}C$.

6. Maintenance

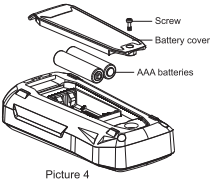
⚠ Warning: Before opening the rear cover of the meter, switch off the power supply (remove the test leads from the input terminals and the circuit).

6.1 General Maintenance

- * Clean the meter casing with a damp cloth and mild detergent. Do not use abrasives or solvents!
- * If there is any malfunction, stop using the meter and send it for maintenance.
- * The maintenance and service must be implemented by qualified professionals or designated departments.

6.2 Battery Replacement (Picture 4)

- * Replace the batteries immediately when the low battery symbol " $\triangleleft$ " appears on the LCD, otherwise the measurement accuracy might be affected. Battery specification: AAA battery 1.5V*2
- * Battery replacement: Use a screwdriver to unscrew the screw on the battery cover (top), and remove the cover to replace the batteries. Pay attention to the positive and negative polarity when installing the new batteries.



Picture 4

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This document is a translation of the original instruction manual created by the manufacturer.

Detailed information on the distributor's / manufacturer's warranty terms and conditions is available at website <https://serwis.innpro.pl/gwarancja>

The product must be regularly maintained (cleaned) by the user himself or by specialised service centres at the user's expense and expense. In the absence of information on necessary cyclical maintenance or service actions in the operating instructions, the deviation of the physical condition of the product from a physically new product must be assessed regularly, at least once a week. If any discrepancy is detected or found, maintenance (cleaning) or service measures must be taken urgently. Failure to properly maintain (clean) and react when a dissimilar condition is detected may result in permanent damage to the product. The guarantor is not liable for damage resulting from negligence.

Warnings and safety information

For all information on handling and use, please refer to the instruction manual or product label. Before using the products, read its contents and follow the instructions contained therein.

Also read the following information before use:

Safety of use

Use measuring tools for their intended purpose. Do not use measuring tools for tasks for which they were not designed to avoid damage or erroneous measurement results.

Always make sure a tool is in good working condition before using it. Damaged tools, such as cracked cases or damaged displays, can lead to incorrect measurements or risk of accidents.

Calibrate measuring tools regularly to ensure accuracy and reliability of measurements. Incorrectly calibrated devices can lead to erroneous results.

Precautions

Use appropriate eye protection, especially when working with measuring tools that may emit radiation.

Keep measuring tools away from children and untrained people to prevent accidental damage or misuse.

Avoid using measuring tools in extreme conditions of temperature, humidity or in an atmosphere with a high concentration of dust, which can affect their accuracy and functionality.

Be careful not to damage delicate measuring components (e.g., sensors, probes) when working with measuring tools.

Safe use

Always make sure that the measuring tool is properly aligned and fixed to avoid measurement errors or damage.

Use measuring tools only in designated areas that provide adequate stability and minimize the risk of accidents, such as slippery or uneven surfaces.

Never take measurements on live components or in conditions that may pose a safety hazard.

Rules for use in appropriate conditions

Store measuring tools in a dry, cool place, away from moisture and direct sunlight, which can damage the devices or affect their accuracy.

When using measuring tools, make sure they are well seated and will not be subjected to shocks or impacts that can damage them.

Avoid using measuring tools in areas with extreme conditions, such as high vibration, hot surfaces, dust, or moisture, unless the tool is rated for this by the manufacturer.

Maintenance instructions

Regularly check the condition of measuring tools, especially measuring components (e.g., sensors, probes, displays) and batteries.
Follow the cleaning instructions provided by the manufacturer. Use appropriate cleaning materials (e.g., soft cloths) to avoid damaging delicate components.
Calibrate measuring tools regularly, according to the manufacturer's recommendations, to maintain measurement accuracy.

Safe disposal

Dispose of used or damaged measuring tools in accordance with current environmental and electronics recycling regulations.
Do not dispose of measuring tools in regular waste containers, as they may contain elements harmful to the environment.
Contact local authorities or recycling companies for information on proper disposal of used measuring tools.

Statement of compliance

The products have been designed in accordance with the safety requirements of Regulation (EU) 2023/988 on general product safety, ensuring their compliance with applicable standards for the safety and health protection of users.

Environmental protection



Electronic waste labelled in accordance with the European Union directive must not be placed together with other municipal waste. It is subject to separate collection and recycling at designated points. By ensuring that it is disposed of correctly, you will prevent potential negative consequences for the environment and human health. The collection system for used equipment complies with local environmental regulations for waste disposal. You can obtain detailed information on this subject from your municipality, your purification plant or the shop where you purchased the product.



The product complies with the requirements of the so-called New Approach Directives of the European Union (EU), which deal with issues relating to safety of use, health protection and environmental protection, specifying the hazards that should be detected and eliminated.

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Specyfikacje baterii produktu

Cecha	Wartość
Kategoria baterii	Bateria przenośna ogólnego użytku
Typ baterii	Portable alkaline batteries (manganese zinc) (LR)
Zawiera Kadm/Ołów (>0.002% Cd,	Nie
Waga netto (kg)	0.009
Pojemność (mAh)	1300