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## UNI-T HY-UT39A+

# UNI-T UT39A+ Digital Multimeter User Manual

Model: HY-UT39A+

## PRODUCT OVERVIEW

The UNI-T UT39A+ is a versatile digital multimeter designed for electrical measurements in various applications. It features a manual range, 4000 display count, relative mode, and LCD backlight. This device is capable of measuring DC/AC voltage, DC/AC current, resistance, capacitance, hFE, diode, and continuity.



Front view of the UNI-T UT39A+ Digital Multimeter, showing the LCD display, rotary switch, and input jacks.

# Easy operation instructions



Detailed diagram illustrating the key components and their functions on the UNI-T UT39A+ multimeter, including the LCD display, function button, range switch, and input terminals.

## SAFETY INFORMATION

Always observe safety precautions when using the multimeter. This device has a CAT III 600V safety rating. Ensure proper connection of test leads and select the correct measurement function before testing. Avoid contact with live circuits and always assume circuits are live until proven otherwise.

For detailed safety instructions, refer to the full manual provided with the product. Pay particular attention to warnings regarding high voltage and current measurements.

## SETUP

### Unpacking and Initial Inspection

Carefully remove the multimeter and its accessories from the packaging. Inspect all components for any signs of damage. The package should include the UT39A+ multimeter and test leads. If any items are missing or damaged, contact your vendor.



The UNI-T UT39E+ multimeter shown with its retail packaging, test leads, and user manual, illustrating typical contents.

## Battery Installation

The UT39A+ requires 1 Lithium Metal battery (included). To install or replace the battery, locate the battery compartment on the back of the device. Use a screwdriver to open the compartment cover, insert the battery with correct polarity, and then secure the cover.

## Connecting Test Leads

Insert the red test lead into the "VΩmA" input jack and the black test lead into the "COM" input jack for most voltage, resistance, and current measurements. For high current measurements (up to 10A), insert the red test lead into the "10A" input jack.

## OPERATING INSTRUCTIONS

The UT39A+ features a rotary switch to select the desired measurement function. The LCD backlight can be activated for improved visibility in low-light conditions. The device also includes a data hold function to freeze the displayed reading.

## Voltage Measurement (DC/AC)

To measure voltage, turn the rotary switch to the V~ (AC Voltage) or V- (DC Voltage) position. Connect the test leads in parallel to the circuit or component being measured. The UT39A+ supports up to 1000V DC and 750V AC.

Your browser does not support the video tag.

Video demonstrating AC and DC voltage measurements using the UNI-T UT39C+ multimeter, showing the connection of test leads to a circuit and the displayed readings.

## Current Measurement (DC/AC)

For current measurement, turn the rotary switch to the A~ (AC Current) or A- (DC Current) position. Connect the multimeter in series with the circuit. Ensure the red test lead is in the appropriate current input jack (mA or 10A) based on the expected current. The UT39A+ supports up to 10A DC/AC current.

The video above also illustrates AC and DC current measurements.

## Resistance Measurement

Select the  $\Omega$  (Resistance) function on the rotary switch. Connect the test leads across the component to measure its resistance. Ensure the component is de-energized before measurement.

The video above also illustrates resistance measurements.

## Capacitance Measurement

Turn the rotary switch to the F (Capacitance) position. Connect the test leads across the capacitor. Ensure the capacitor is fully discharged before measurement to prevent damage to the multimeter. The UT39A+ can measure capacitance up to 10mF.

The video above also illustrates capacitance measurements.

## Diode and Continuity Test

Select the Diode/Continuity function. For diode test, connect the red lead to the anode and the black lead to the cathode. For continuity, the multimeter will emit an audible beep if the resistance is below a certain threshold.

The video above also illustrates diode and continuity measurements.

## hFE (Transistor) Measurement

To measure transistor hFE, turn the rotary switch to the hFE position. Insert the transistor leads into the appropriate NPN or PNP sockets on the multimeter. The display will show the hFE value.

The video above also illustrates transistor hFE measurements.

## Non-Contact Voltage (NCV) Measurement (UT39C+ only)

While the UT39A+ model does not feature NCV, the UT39C+ variant includes this function. When enabled, the multimeter can detect AC voltage without direct contact, providing an audible and visual alarm.

The video above illustrates Non-Contact Voltage (NCV) measurement, a feature available on the UT39C+ model.

## Temperature Measurement (UT39C+ only)

The UT39A+ model does not feature temperature measurement. The UT39C+ variant supports temperature measurement using a K-type thermocouple, with a range of -40°C to 1000°C.

The video above illustrates temperature measurement, a feature available on the UT39C+ model.

## MAINTENANCE

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## Cleaning

To clean the multimeter, use a soft, damp cloth. Do not use abrasive cleaners or solvents. Ensure the device is powered off and test leads are disconnected before cleaning.

## Storage

When not in use for a long period, remove the battery to prevent leakage. Store the multimeter in a cool, dry place, away from direct sunlight and extreme temperatures.

## Fuse Replacement

If the multimeter fails to measure current, the fuse may need replacement. Refer to the specifications for the correct fuse type and rating. Always replace with a fuse of the same type and rating to maintain safety and performance.

## TROUBLESHOOTING

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- **No Display/Low Battery Indicator:** Check battery installation and replace if necessary.
- **Incorrect Readings:**
  - Ensure test leads are properly connected to the correct input jacks.
  - Verify the rotary switch is set to the appropriate measurement function.
  - Check if the circuit or component is within the measurement range of the multimeter.
  - Inspect test leads for damage or poor connection.
- **No Current Measurement:** Check the fuse. Replace if blown.
- **"OL" (Overload) Display:** The measured value exceeds the selected range. Switch to a higher range or a different function if applicable.

## SPECIFICATIONS

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The UNI-T UT39A+ Digital Multimeter offers robust performance for various electrical testing needs. Below are the detailed specifications:

**UNI-T UT39 Series Multimeter Specifications**

Feature	Range	UT39A+	UT39C+	UT39E+
DC Voltage (V)	400mV/4V/40V/400V/1000V	$\pm(0.5\%+5)$	$\pm(0.5\%+5)$	$\pm(0.05\%+3)$
AC Voltage (V)	200mV/2V/20V/200V/1000V			$\pm(0.5\%+10)$
AC Voltage (V)	4V/40V/400V/750V	$\pm(0.8\%+3)$	$\pm(0.8\%+3)$	
DC Current (A)	200uA/2mA/20mA/200mA/10A	$\pm(0.8\%+3)$	$\pm(0.8\%+3)$	$\pm(0.5\%+5)$
DC Current (A)	400uA/4mA/40mA/400mA/10A			

Feature	Range	UT39A+	UT39C+	UT39E+
AC Current (A)	2mA/20mA/200mA/10A	$\pm(1\%+2)$	$\pm(1\%+2)$	
AC Current (A)	400uA/4mA/40mA/400mA/10A			$\pm(0.8\%+10)$
Resistance ( $\Omega$ )	200 $\Omega$ /2k $\Omega$ /20k $\Omega$ /200k $\Omega$ /2M $\Omega$ /20M $\Omega$	$\pm(0.8\%+2)$	$\pm(0.8\%+2)$	
Resistance ( $\Omega$ )	400 $\Omega$ /4k $\Omega$ /40k $\Omega$ /400k $\Omega$ /4M $\Omega$ /40M $\Omega$			$\pm(0.3\%+2)$
Capacitance (F)	10mF	$\pm(4\%+5)$	$\pm(4\%+5)$	
Capacitance (F)	2000 $\mu$ F			$\pm(4\%+20)$
Frequency (Hz)	10Hz~1MHz		$\pm(0.1\%+4)$	
Frequency (Hz)	10Hz~1MHz			$\pm(0.3\%+3)$
Temperature	-40°C~1000°C		$\pm(1\%+4)$	
Temperature	-40°F~1832°F		$\pm(1.5\%+5)$	
Conductance (nS)	0.1~100nS			$\pm(1\%+5)$
Display count		4000	4000	20000
NCV			V	V
Category ratings		CAT II 1000V, CAT III 600V	CAT II 1000V, CAT III 600V	CAT II 1000V, CAT III 600V

Detailed technical specifications for the UNI-T UT39 series multimeters, including measurement ranges and accuracy for different models.

## General Characteristics

- **Standard accessories:** Test leads, temperature probe (UT39C+ only), English manual
- **Power:** 1 Lithium Metal battery (included)
- **Display:** 56.5 x 36mm
- **Product net weight:** 330g
- **Product dimensions:** 175 x 83 x 53mm

For further assistance, please visit the official UNI-T website or contact customer support.

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