UNI-T®

UT256A

Operating Manual

200A AC Fork Meter

P/N:110401109062X

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Preface

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

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 damage caused by accident, negligence, misuse, modification, contamination or 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.

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I. Overview

The UT256A is a stable, safe and reliable 6000-count AC fork meter. It measures AC current via the fork, AC/DC voltage (up to 1000V), resistance, and continuity via test leads, and can detect the presence of AC voltage via the non-contact voltage (NCV) sensor. It has data hold, auto/manual range, LCD backlight, audio/visual alarm, and flashlight functions. The full-scale overload protection and unique appearance design make it a special electrical meter with superior performance.

II. Accessories

Open the package box and take out the meter. Please double check whether the following items are missing or damaged.

1. User manual ---------- 1 pc
2. Test leads ---------- 1 pair
3. Cloth bag ---------- 1 pc
4. 1.5V AA batteries (preinstalled into meter) --------- 2 pcs

If any of the above is missing or damaged, please contact your supplier immediately.

III. Safety Instructions

The meter is designed according to IEC/EN61010-1, IEC/EN61010-2-033 and EN61326-1 safety standards, and conforms to CAT II 1000V, CAT III 600V, double insulation, and pollution degree 2. Use the meter only as specified, or the protection provided by the meter may be impaired.

1. Before use, please check if there is any item which is damaged or behaving abnormally. If any abnormal item (such as bare test lead, damaged meter casing, broken LCD, etc.) is found, or if the meter is considered to be malfunctioning, please do not use the meter.
2. Do not use the meter if the rear cover or battery cover is not covered up, or it will pose a shock hazard!
3. Before each use, verify meter operation by measuring a known voltage.
4. When using the meter, keep fingers behind the finger guards of the test leads, and do not touch exposed wires, connectors, unused inputs, or circuits being measured to prevent electric shock.
5. Place the function switch in the correct position before measurement. It is forbidden to change the position during measurement.
6. Do not apply more than the rated voltage, as marked on the meter, between any meter terminal and earth ground to prevent electric shock or damage to the meter.
7. Use caution when working with voltages above AC 30Vrms, 42Vpeak or DC 60V. Such voltages pose a shock hazard.

8. Never input a voltage or current which exceeds the specified limit. If the range of the measured value is unknown, the maximum range should be selected.
9. Before measuring the resistance and continuity online, switch off the power supply of the circuit, and fully discharge all capacitors to avoid inaccurate measurement.
10. When the " " symbol appears on the LCD, please replace the batteries in time to ensure measurement accuracy. If the meter is not in use for a long time, please remove the batteries.
11. Do not change the internal circuit of the meter to avoid damage to the meter or user!
12. Do not use or store the meter in high temperature, high humidity, flammable, explosive or strong magnetic field environments.
13. Clean the meter casing with a soft cloth and mild detergent. Do not use abrasives or solvents!

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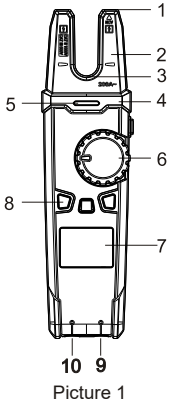
IV. Electrical Symbols

Symbol	Description
⎓	Direct current
~	Alternating current
⏚	Earth (ground) TERMINAL
⧈	Equipment protected throughout by DOUBLE INSULATION or REINFORCED INSULATION
⚡	Caution, possibility of electric shock
⚠	Warning or Caution
	Application around and removal from UNINSULATED HAZARDOUS LIVE conductors is permitted.
	Conforms to UL STD 61010-1, 61010-2-032, 61010-2-033 Certified to CSA STD C22.2 No. 61010-1, 61010-2-032, 61010-2-033.
CE	Complies with European Union standards
CAT II	It is applicable to testing and measuring circuits connected directly to utilization points (socket outlets and similar points) of the low-voltage MAINS installation.
CAT III	It is applicable to testing and measuring circuits connected to the distribution part of the building's low-voltage MAINS installation.

V. External Structure (Picture 1)

1. NCV sensor
2. Open jaw fork
3. Flashlight LED light
4. Hand guard
5. Visual NCV alarm indicator
6. Function switch
7. LCD display
8. Function buttons
9. Signal input jack (red and positive +)
10. COM input jack (black and negative -)



Picture 1

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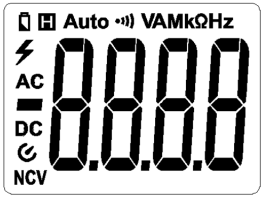
VI. LCD Display (Picture 2)



Picture 2

Symbol	Description
⚡	Warning sign, indicating AC voltage >35V and DC voltage >50V
H	Data hold
▬	Negative reading
•))	Continuity test
🔋	Low battery indication
AC/DC	AC/DC measurement
Auto	Auto range
Ω, kΩ, MΩ	Resistance units (ohm, kilo-ohm, meg-ohm)
V	Voltage unit (volt)
A	Current unit (ampere)
Hz	Frequency unit (hertz)
	Auto power off
NCV	Non-contact voltage sensing

VII. Function Buttons

1. SELECT button: When the function switch is in the composite function position, short press this button to switch between the corresponding functions.
2. H/ button: Short press this button to enable/disable the data hold function. Long press (>2s) this button to turn on/off the flashlight.
3. RANGE button: Short press this button to enter the manual range mode (no “Auto” displayed) and change the range in this mode. Long press this button to exit the manual range mode. Turn the function switch or restart the meter to restore default settings.
4. button: Short press this button to turn on/off the backlight.

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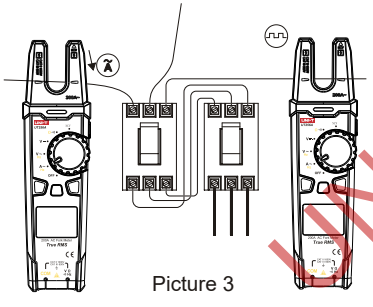
VIII. Operating Instructions

1. AC Current/Frequency Measurement (Picture 3)

1) Turn the function switch to the A~ Hz position, and use the SELECT button to switch to AC current/frequency measurement.
2) Clamp **one** current-carrying wire and keep it at the bottom of the U-type open jaw fork.
3) Read the measured value on the display (frequency response: 50Hz~60Hz).



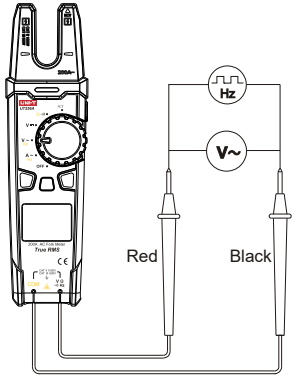
Picture 3

⚠ **Caution:**

- Disconnect the test leads when measuring current to avoid electric shock.
- Do not place any part of your body beyond the hand guard of the meter when measuring current.
- The maximum measuring current cannot exceed AC 200A.

2. AC Voltage/Frequency Measurement (Picture 4)

1) Turn the function switch to the V~ Hz position, and use the SELECT button to switch to AC voltage/frequency measurement.
2) Insert the red test lead into the signal input jack, black into the COM input jack, and make the probes in contact with both ends of the measured object (part).
3) Read the measured value on the display.



Picture 4

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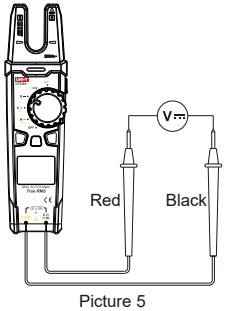
3. DC Voltage Measurement (Picture 5)

1) Turn the function switch to the V⎓ position.
2) Insert the red test lead into the signal input jack, black into the COM input jack, and make the probes in contact with both ends of the measured object (part).
3) Read the measured value on the display.



Picture 5

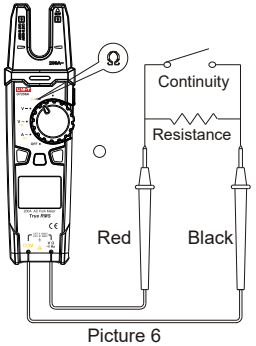
⚠ **Caution:**

- Maximum measuring voltage: 1000V (AC/DC voltage) under CAT II, 600V (AC/DC voltage) under CAT III, ACV: 45Hz~400Hz.
- Do not exceed the limits, otherwise there may be danger of electric shock or damage to the meter (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 errors 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 voltages.
- Before each use, verify meter operation by measuring a known voltage.

4. Continuity/Resistance Measurement (Picture 6)

1) Turn the function switch to the Ω ·ıı) position, and use the SELECT button to switch to continuity/resistance measurement.
2) Insert the red test lead into the signal input jack, black into the COM input jack, and make the probes in contact with both ends of the measured object (part).
3) Read the measured value on the display.



Picture 6

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⚠ Caution:

- Do not input voltages higher than DC 60V or AC 30V to avoid personal injury.
- Before measuring the resistance online, switch off the power supply of the circuit, and fully discharge all capacitors to ensure accurate measurement.
- If the resistance is >0.5Ω when the test leads are short-circuited, please check the test leads for looseness or other abnormalities.
- If the measured resistor is open or the resistance exceeds the maximum range, the LCD will display “OL”.
- Measurement result = displayed value – resistance of shorted test leads

5. Non-contact Voltage (NCV) Sensing (Picture 7)

1) Turn the function switch to the NCV position, and use the SELECT button to switch to high voltage measurement (“EFHI”) or low voltage measurement (“EFLo”). When the voltage is >48V, select “EFHI”; when the voltage is <48V, select “EFLo”.
2) Bring the NCV sensor close to the charged AC wire under test. As the intensity of the detected voltage increases, the more the segments (“—”, “— —”, “— — —” or “— — — —”) are displayed, the more frequently the buzzer beeps and the indicator flashes. When the voltage is sensed in EFLo mode, the indicator blinks in green, and when the voltage is sensed in EFHI mode, the indicator blinks in yellow until it turns red.

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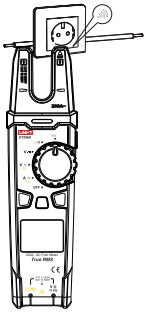

Picture 7

⚠ Caution:

- If the distance between the NCV sensor and AC wire is different, the intensity sensed will vary.
- Frequency of the detected voltage: 50Hz~60Hz
- NCV sensing is not used as a basis for touch. Use the test leads for contact measurement to determine whether the voltage is safe before touch to prevent electric shock.

6. Others

1) Auto power off: During measurement, if there is no operation of the function switch or any button for 15 minutes, the meter will automatically shut down to save power. Users can wake it up by pressing any button or restart it after turning the function switch to the OFF position.

To disable the auto power off function, press and hold the SELECT button in the off state, and then turn on the meter. The buzzer will make five consecutive beeps. To resume the auto power off function, restart the meter.

About 1 minute before auto power off, the buzzer will make five consecutive beeps. If there is no operation within the 1 minute, the meter will automatically shut down accompanied by one long beep.

2) Buzzer: When any button is pressed or the function switch is turned, if it is valid, the buzzer will make one beep (two short beeps indicating invalid button operation). In the voltage or current measurement, the buzzer will beep continuously to indicate the over range.

IX. Specifications

1. General Specifications

a. *Max display:* 6000 counts
b. *Polarity display:* Auto
c. *Overload display:* “OL” or “-OL”
d. *Low battery indication:* The “ ” symbol is displayed.
e. *Test position error:* If the measured source is not placed in the measurement position of the open jaw fork in measuring current, an error or erroneous reading will be produced.
f. *Drop protection:* 2m
g. *Jaw opening:* 15mm
h. *Battery:* 2×1.5V AA batteries

i. *Auto power off:* 15 minutes (can be disabled)
j . *Dimensions:* 220mm×58.5mm×38mm
k. *Weight:* About 260g (including batteries)
l. *Operating altitude:* ≤2000m
m. *Operating temperature and humidity:* 0°C~30°C (≤80%RH), 30°C~40°C (≤75%RH), 40°C~50°C (≤45%RH)
n. *Storage temperature and humidity:* -20°C~60°C (≤80%RH)
o. *Electromagnetic compatibility:* RF=1V/m, overall accuracy = specified accuracy + 5% of range; RF>1V/m, not specified

2. Electrical specifications

a. *Accuracy:* ± (a% of reading + b digits), 1 year calibration cycle
b. *Ambient temperature and humidity:* 23°C±5°C; ≤80%RH

⚠ Caution:
To ensure measurement accuracy, the operating temperature should be within 18°C~28°C and the fluctuation range should be within ±1°C. When the temperature is <18°C or >28°C, add temperature coefficient error 0.1 x (specified accuracy)/°C.

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1) AC Current/Frequency

Range	Resolution	Accuracy
200.0A	0.1A	0.2A ≤ACA ≤2.0A: ± (1.8%+2)
		2.0A <ACA ≤5.0A: ± (1.8%+3)
		5.0A <ACA ≤200.0A: ± (1.8%+5)
Frequency: 50Hz~60Hz	0.01Hz	± (0.1%+5)

Caution:

- AC current accuracy guarantee: 5%~100% of range
- Current frequency response: 50Hz~60Hz
- When the measured current is ≥ 200A, the indicator turns red to remind users.
- For frequency measurement, the input amplitude should be >20A.

2) Voltage

AC voltage/frequency

Range	Resolution	Accuracy
6.000V	0.001V	± (1.2%+3)
60.00V	0.01V	
600.0V	0.1V	
1000V	1V	
Frequency: 10Hz~10kHz	0.01Hz~0.01kHz	± (0.1%+5)

DC voltage

Range	Resolution	Accuracy
6.000V	0.001V	± (0.8%+3)
60.00V	0.01V	
600.0V	0.1V	
1000V	1V	± (1.0%+5)

⚠ **Caution:**

- For frequency measurement, the input amplitude should be >8V RMS.
- Input impedance: About 10MΩ
- Maximum input voltage: 1000V
- Voltage frequency response: 45Hz~400Hz, true RMS display
- Voltage accuracy guarantee: 5%~100% of range

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- The AC crest factor of a non-sinusoidal wave decreases linearly to about 1.8 at 6000 counts. The additional error should be added for the corresponding crest factor as follows:
  a) Add 3% when crest factor is 1~2
  b) Add 5% when crest factor is 2~2.5

3) Continuity

Range	Resolution	Remark
600.0Ω	0.1Ω	Resistance <10Ω: Buzzer beeps Resistance >100Ω: no beep

4) Resistance

Range	Resolution	Accuracy
600.0Ω	0.1Ω	± (1.2%+2)
6.000kΩ	0.001kΩ	± (1.0%+2)
60.00kΩ	0.01kΩ	
600.0kΩ	0.1kΩ	
6.000MΩ	0.001MΩ	± (1.2%+2)
60.00MΩ	0.01MΩ	± (2.0%+5)

⚠ Caution:

- Measurement result = displayed value – resistance of shorted test leads
- Open circuit voltage: About 1V
- Overload protection: 1000Vrms

5) Audio/Visual alarm indicator

Function	Status	Description
NCV	< 12V (AC): Off	No ACV signal
	EFLo mode: Blinks in green	Weak ACV signal
	EFHI mode: Blinks in yellow until it turns red	Strong ACV signal
Continuity	On, green	Continuity
	Off	Open circuit
AC/DC voltage	<1000V: Off	
	⩾1000V: On, red	Over range
Current	<200A: Off	
	⩾200A: On, red	Over range

X. Maintenance

⚠ Warning:

To avoid electric shock, make sure the test leads are disconnected from the measured circuit before removing the rear cover.

1. General Maintenance

1) Clean the meter casing with a soft cloth and mild detergent. Do not use abrasives or solvents!
2) If there is any malfunction, stop using the meter and send it for maintenance.

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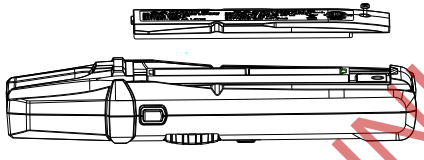
3) The maintenance and service must be implemented by qualified professionals or designated departments.

2. Battery Replacement (Picture 8)

1) Turn off the meter and remove the test leads from the input jacks.
2) Unscrew and remove the battery cover.
3) Replace with 2 standard AA batteries according to the polarity indication.
4) Secure the battery cover and tighten the screw.



Picture 8

3. Test Lead Replacement

If the insulation on the test lead is damaged, replace it.

⚠ **Warning:**

Test lead assemblies to be used for MAINS measurement should meet EN 61010-031 standard, the same rating or better.

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