

Uni-T UT18D

Uni-T UT18D Automatic Range Voltage Tester

Instruction Manual

Model: UT18D | Brand: Uni-T

1. INTRODUCTION

The Uni-T UT18D is a versatile automatic range voltage tester designed for measuring AC and DC voltage, including three-phase AC current. It features three-phase AC power indicator phase, RCD testing, single-pole measurement (to identify live/neutral lines), self-check, and battery-free detection capabilities. This device is suitable for professional electricians and DIY enthusiasts for various electrical testing needs.



Figure 1: Uni-T UT18D Voltage Tester with highlighted features.

2. SAFETY INFORMATION

Always adhere to local and national safety regulations when working with electrical systems. This device is rated CAT III 690V and CAT IV 600V, and has an IP65 waterproof rating, ensuring safety under specified conditions. However, proper precautions must always be taken.

- Always assume circuits are live until proven otherwise.
- Wear appropriate Personal Protective Equipment (PPE), such as insulated gloves and safety glasses.
- Do not use the device if it appears damaged or is operating abnormally.

- Do not exceed the maximum voltage ratings specified for the device.
- Ensure the test probes are securely connected and in good condition before use.



Figure 2: Safety certifications and dimensions of the UT18D.

3. PRODUCT OVERVIEW

The UT18D features a robust design with clear indicators for ease of use. Key components include:

- **Test Pen Caps:** Protective covers for the test probes.
- **Test Pens L1 & L2:** Probes for making electrical contact.

- **Flashlight:** Integrated light for illuminating dark work areas.
- **Voltage Indication (LED):** LED bar graph for quick voltage level reference.
- **LCD Display:** Large screen for precise voltage readings and other information.
- **RCD Test Button:** Initiates the Residual Current Device test.
- **Flashlight/Self-Inspection Button:** Activates the flashlight and performs self-inspection.
- **Hold Mode/Backlight Button:** Freezes the display reading; long press activates backlight.
- **Battery Cover:** Access point for battery replacement.

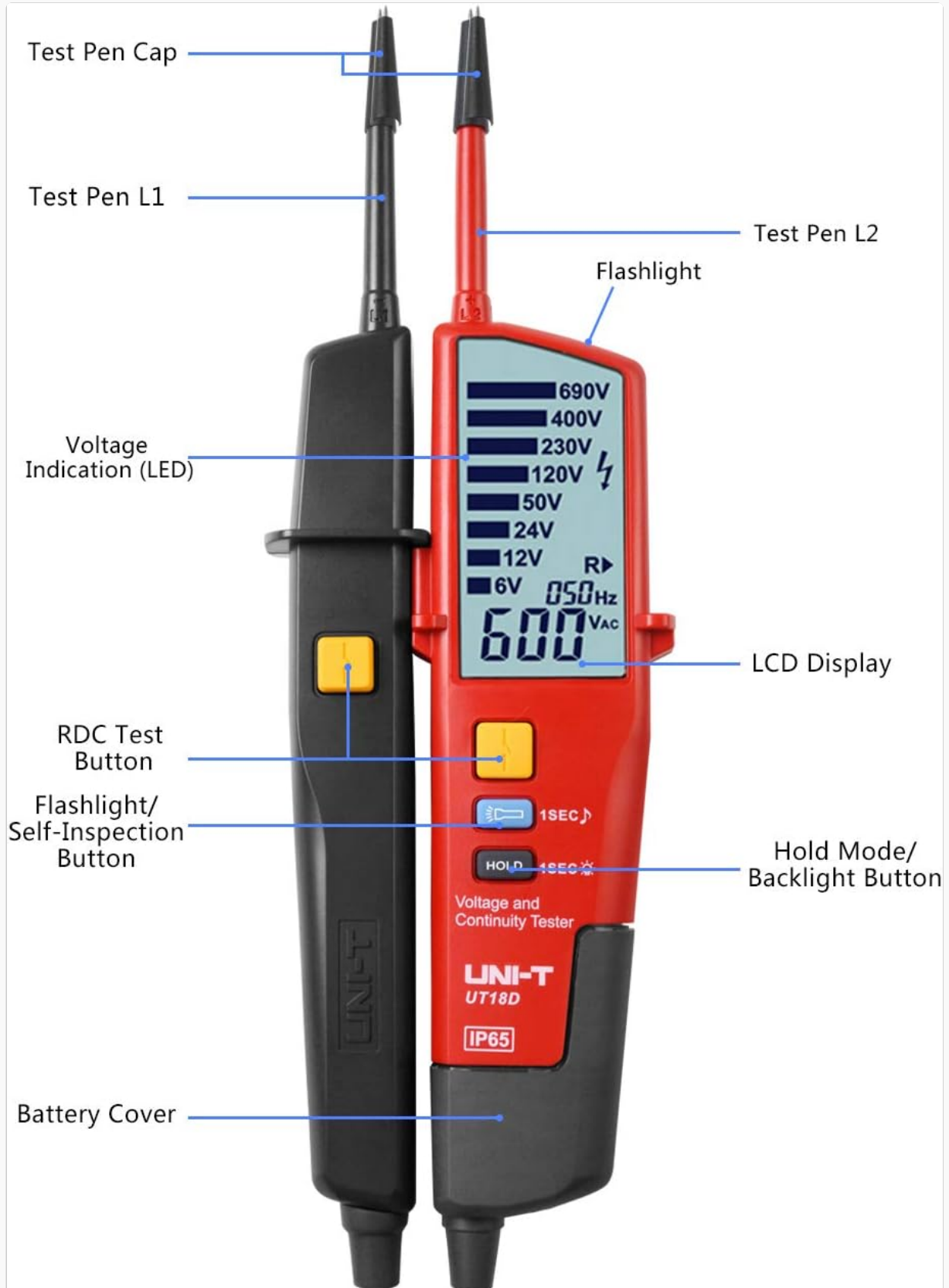


Figure 3: Labeled components of the UT18D.

4. SETUP

4.1 Battery Installation

The UT18D requires 2 AAA batteries for operation. These batteries are typically not included with the device.

1. Locate the battery cover on the back of the device.
2. Use a screwdriver to open the battery cover.
3. Insert 2 AAA batteries, ensuring correct polarity (+/-).
4. Securely close the battery cover.

The device features an automatic power-off function to conserve battery life and can perform basic voltage detection without batteries, though full functionality like continuity testing requires them.

5. OPERATING INSTRUCTIONS

5.1 AC/DC Voltage Measurement

The UT18D automatically detects AC/DC voltage within the 12V to 690V range.

1. Remove the protective caps from the test probes.
2. Connect the test probes to the circuit or component you wish to measure.
3. The voltage level will be displayed on the LCD, and the corresponding LEDs will illuminate.

5.2 Continuity Test

The continuity test function requires batteries to be inserted and in good condition. Ensure the circuit under test is not live.

1. Ensure the circuit is de-energized.
2. Connect the test probes across the circuit or component.
3. A buzzer will sound, and an LED will illuminate to confirm continuity.



Figure 4: Performing a continuity test.

5.3 RCD Test (Residual Current Device)

The RCD test function detects leakage protective switches. This function should NOT be used in 110V electrical systems.

1. Connect the test probes to the circuit where an RCD is present.
2. Press the RCD test button.
3. Observe if the RCD trips, indicating proper function.



Figure 5: Performing an RCD test.

5.4 Phase Sequence Test

This unit can determine the phase rotation within a three-phase supply.

1. Connect the test probes to the three-phase lines as indicated by the device or diagram.
2. The display will indicate the phase rotation (e.g., R for clockwise, L for counter-clockwise).

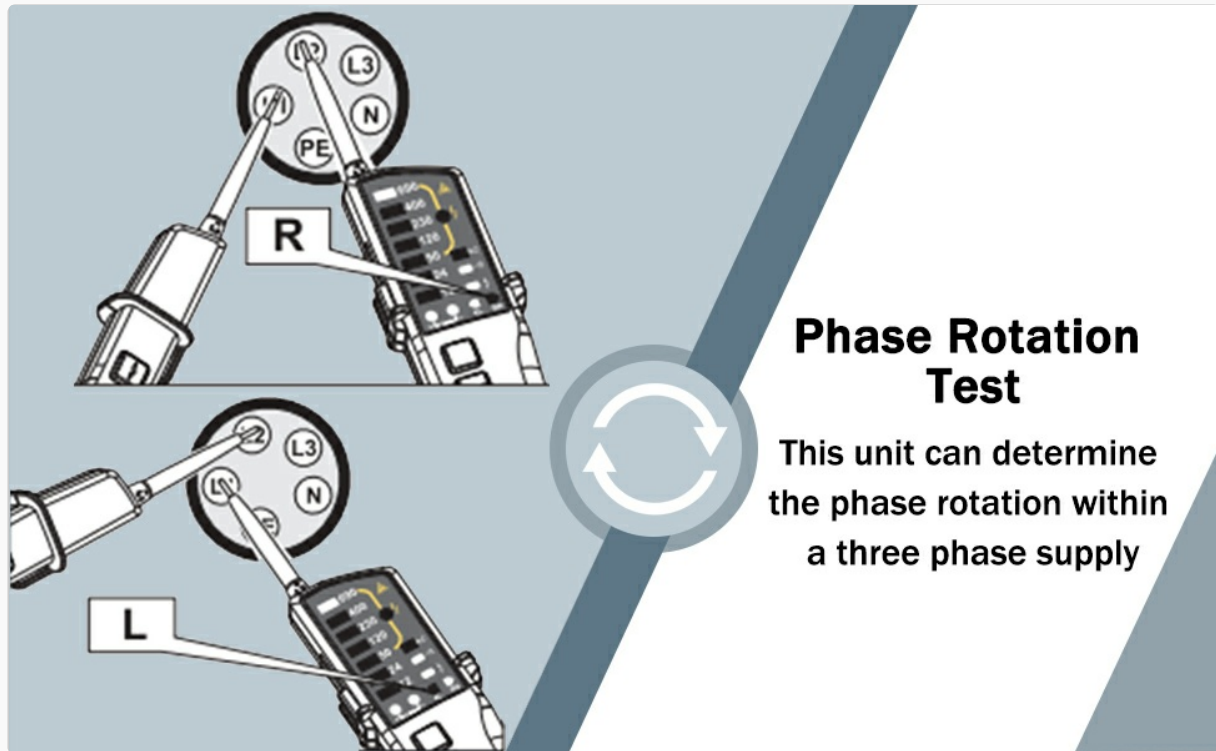


Figure 6: Phase Rotation Test procedure.

5.5 Single-Pole Measurement

The single-pole measurement allows identification of live or neutral lines using a single probe.

1. Touch one test probe to the conductor.
2. The device will indicate if the line is live (phase) or neutral.

5.6 Flashlight and Backlight

Activate the built-in flashlight by pressing the dedicated button to illuminate dark work areas. A long press of the Hold button may activate the LCD backlight for improved visibility in low light conditions.

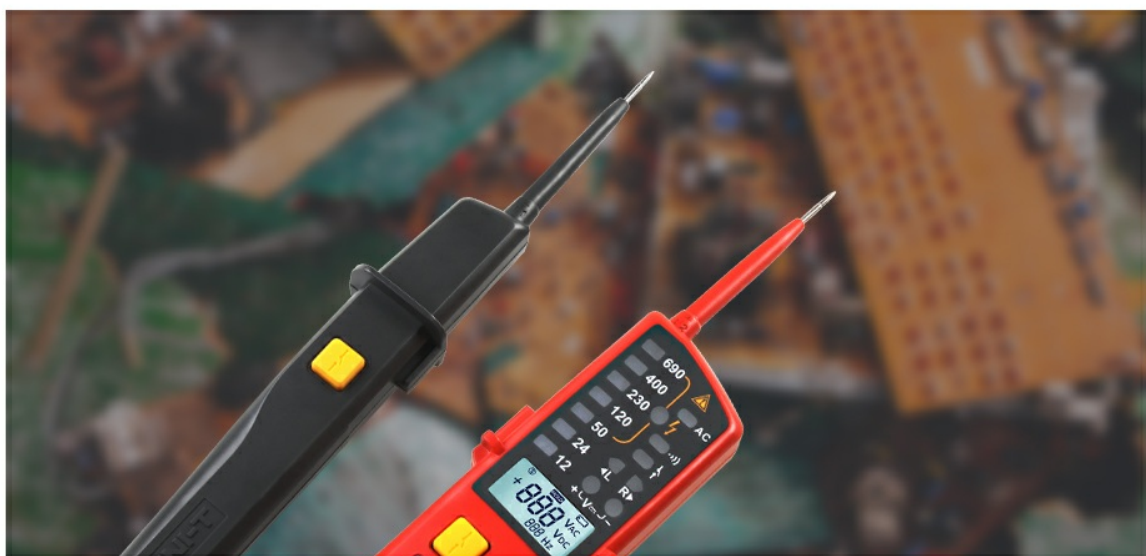


Figure 7: Flashlight feature in use.

6. MAINTENANCE

To ensure the longevity and accuracy of your UT18D voltage tester, follow these maintenance guidelines:

- **Cleaning:** Wipe the device with a dry, soft cloth. Do not use abrasive cleaners or solvents.
- **Storage:** Store the device in a cool, dry place, away from direct sunlight and extreme temperatures.
- **Battery Replacement:** Replace batteries promptly when the low battery indicator appears on the LCD. Remove batteries if the device will not be used for an extended period.
- **Water Resistance:** The UT18D has an IP65 waterproof rating, providing protection against dust and water jets. While it is resistant, avoid submerging the device or exposing it to high-pressure water.



IP65
Waterproof



Continuity Test
with Buzzer
& LED Indication



Auto Range /
Inspection



LCD Display



Continuity



Phase
Sequence



Auto Power
Off



3- PHase
Voltage



AC/DC
Voltage

Figure 8: IP65 Waterproof feature.

7. TROUBLESHOOTING

If you encounter issues with your UT18D, consider the following:

- **Device Not Powering On:** Check if the batteries are correctly installed and have sufficient charge. Replace batteries if necessary.
- **Inconsistent Readings:** Ensure proper contact between the test probes and the circuit. Verify that the circuit conditions are within the device's specified operating range.
- **No Continuity Indication:** Confirm that batteries are installed and in good condition. Ensure the circuit is de-energized before testing continuity.

For persistent issues, refer to the detailed specifications or contact customer support.

8. SPECIFICATIONS

Feature	Specification
Manufacturer	UNI-T
Model Number	UT18D
Dimensions	25 x 23 x 25 cm; 450 g
Batteries	2 AAA (required, not included)
Voltage Range	12V~690V AC/DC
Safety Rating	CAT III 690V, CAT IV 600V
IP Rating	IP65 Waterproof
Measurement Type	Voltmeter
Minimum Operating Voltage	6 Volts
Maximum Operating Voltage	690 Volts
UPC	842155122882

9. WARRANTY AND SUPPORT

For warranty information, technical support, or service inquiries, please contact Uni-T customer service directly or visit the official Uni-T website. Keep your purchase receipt as proof of purchase for warranty claims.