

Αξιολόγηση του Uni-T RCD UT582+

UNI-T · EAN 6935750558218

Machine translation from Polski. In case of doubt the manufacturer's original document prevails.

Tester Uni-T RCD UT582+

User Manual

I. Safety Warnings

This manual contains warnings and safety regulations. Please read them carefully and follow them strictly to ensure the safety of the user and the device.

Note:

1. Before using the device, please familiarize yourself with the content of this manual.
2. The device must be used strictly according to the testing procedure described in the manual.
3. Please thoroughly review the safety rules contained in the manual.
4. This device must be operated by a trained and qualified technician and used under the conditions specified in the instructions.
5. Uni-Trend is not responsible for any damages caused by improper use or violation of the safety rules contained in the instructions. The safety symbol in the form of a triangle with an exclamation mark has three meanings in the instructions. While reading, users should pay special attention to actions related to this symbol. Danger — indicates situations and actions that may pose a serious or fatal threat. Warning — indicates situations and actions that may pose a serious or fatal threat. Caution — indicates situations and actions that may cause minor injuries or damage to the device.

Warnings:

1. Any voltage between the protective conductor and ground may affect measurement results.
2. Before starting the test, check the connection between the neutral point of the distribution network and ground. Any voltage between the N conductor and ground may affect measurement results.
3. Leakage currents in the circuit behind the residual current device may affect measurement results.
4. When the short-circuit voltage exceeds 50 V, the message "Uf Hi" will be displayed and the test will be stopped. This voltage refers to the residual working current of the protective

device.

5. The resistance of the grounding electrode of the measuring circuit probe must not exceed 50.
6. The potential fields of other grounding installations may affect the measurement.
7. Special conditions regarding the residual current devices of a given type must be taken into account.
8. Devices connected behind the residual current device may significantly prolong the operating time.

II. Features

1. Intelligent control using a microprocessor: high accuracy, reliability, and stability
2. Checking the wiring of the RCD tester:
 - 1) When the wiring is correct, the L-PE and L-N symbols on the left side of the LCD display are continuously lit.
 - 2) In case of incorrect power supply or lack of power, the L-PE and L-N symbols on the left side of the LCD display flash simultaneously.
 - 3) If the socket is not properly grounded or is not grounded, the L-PE and N-PE symbols on the left side of the LCD display flash simultaneously.
 - 4) If the neutral wire of the socket is not properly connected or is not connected, the L-N and N-PE symbols on the left side of the LCD display flash simultaneously.
 - 5) If the phase wire and the neutral wire of the power socket are connected incorrectly, the L-PE, L-N, and N-PE symbols on the left side of the LCD display flash simultaneously.

Situation

If the wiring is correct on on off

If the voltage is incorrect or there is no power flashing flashing off

If the socket is not properly grounded or not flashing off flashing grounded

If the neutral wire of the socket is not properly off flashing flashing connected or not connected

If the phase and neutral wires of the socket are flashing flashing flashing connected incorrectly

3. Phase angle selection: The residual current device test can be set to start from the positive (0°) or negative (180°) half of the cycle.
4. Contact voltage alarm: The contact voltage can be limited to values of UL25V or UL50V. If

during the residual current device test the contact voltage exceeds the selected threshold value, the test will be stopped, and the message "Hi" and "Uf" will appear on the LCD display.

5. Automatic data hold: After the residual current device test is completed, the measurement results remain displayed until a key is pressed or a switch is toggled.

6. Range over indication: When the test value exceeds the maximum or minimum value of the current measurement range, the LCD display will show "> current maximum value" (e.g., >300 ms) or "< current minimum value" (e.g., <30 V).

7. AUTO RAMP test: Simultaneous testing of the tripping current and tripping time.

8. Battery power: AA 1.5 V alkaline batteries (6 pcs.). When the battery voltage drops to about 7.2 V, a low voltage signal will appear.

9. Automatic shut-off function: The device will automatically turn off after 5 minutes of inactivity.

10. Fuse protection

11. Double or reinforced insulation ensuring safety of construction.

12. Backlight function: Press the "LIGHT" button and turn on the device to activate the backlight; in the "VOLTS" position, press the "LIGHT" button to turn the backlight on or off.

13. L-N voltage measurement: Displays the L-N input voltage. The display range is 30 V~600 V.

"----" is displayed when there is no input signal or it is very low, "<30 V" is displayed when the input voltage is less than 30 V, and ">600 V" is displayed when the input voltage is greater than 600 V. Press the "L-N/L-PE" button to switch to displaying L-PE voltage.

14. Measuring L-PE voltage: Displays the L-PE input voltage. The display range is 30 V-600 V.

"----" is displayed when there is no input signal or it is very low, "<30 V" when the input voltage is less than 30 V, and ">600 V" when the input voltage is greater than 600 V. Press the "L-N/L-PE" button to switch to displaying L-N voltage.

15. Measuring frequency: Displays the input frequency at the L-PE terminal. In the "VOLTS" position, press the "VOLT/FREQ" button to switch between voltage/frequency display.

III. Technical data

1. Measurement range and accuracy (temperature: $23 \pm 5^{\circ}\text{C}$; humidity: 45%–75% relative humidity; altitude above sea level ≤ 2000 m)

Voltage measurement function: Function Range Frequency Range Resolution Measurement Error voltage $\pm 3\%$ of reading ± 3 digits VOLTS (Frequency value is for reference only)

1. Measurement range and accuracy (temperature: $23 \pm 5^{\circ}\text{C}$; humidity: 45%–75% relative humidity; altitude above sea level ≤ 2000 m)

Residual current device testing function: Function Voltage Tripping Current Time (max.) Accuracy (AC) (I n) Tripping

Tripping Time Tolerance (Tolerance Tolerance Frequency 40 ms (RAMP rise by 10%)
Tolerance in the range from 20% to 110% 300 × 10 ms Factors that may affect
measurement results: Designation code Variable descriptions Own uncertainty Reference
position +90° Supply voltage within the limits specified by the manufacturer Temperature
0°C and 35°C Probe resistance within the limits specified by the manufacturer From 85% to
110% of nominal mains voltage 2. Measurement range (function) Voltage measurement, 30
V-600 V, 45 Hz-65 Hz Test for non-trip, checking the sensitivity of the residual current
device Measurement of trip time Measurement of fast trip time at tripping current $I_n \times 5$
Measurement of tripping current 3. Applicable standards: IEC 61010-1; IEC 61010-2-030; IEC
61010-2-033; IEC 61557-1; IEC 61557-6; EN 61326-1; EN 61326-2-2 Category III 600 V
Pollution degree: 2 4. Working voltage for RCD test: 230 V/50 Hz (voltage range: 195-253 V)
5. Operating environment: Temperature: 0°C-40°C Relative humidity: ≤80% RH Altitude:
≤2000 meters 6. Storage conditions: Temperature: -20°C~60°C Relative humidity: ≤75% RH
7. Product dimensions: 160 mm x 70.5 mm x 100 mm 8. Product weight: approximately 400
g 9. Standard accessories: Measurement cable with 3 terminals (1.5 meters) ----- 1 pc. User
manual ----- 1 pc. Fabric case/strap/bag --- --- 1 set Measurement cables
----- --- 1 set IV. Appearance of the device and main accessories (see Fig. 1, 2, 3) Fig.
2 Fig. 1 Fig. 3 1. LCD display 2. PHASE/UL button (RCD function) L-N/L-PE button (voltage
measurement function) 3. I_n button (RCD function) LIGHT button (backlight function) 4.
TEST button (RCD function) VOLT/FREQ button (voltage measurement function) 5. Function
selection switch 6. Measurement ports 7. Three terminals for measurement cable 8.
Measurement cable V. Voltage measurement 1. To measure voltage, use measurement
cables that meet the requirements of CAT III 600 V standard, IEC 61010-031:2015 (the
maximum voltage to be measured should be less than 600 V). How to connect the
measurement cables: Insert the red measurement cable into the L port and the black
measurement cable into the N port of the device being measured. (If the voltage is less than
250 V, three measurement cable tips can also be used (but this is not recommended). How
to connect the measurement cables: Insert the three tips of the measurement cable into the
three corresponding ports of the device: red to L, green to E, and blue to N.) 2. Set the dial to
the appropriate measurement range (VOLTS) for the voltage measurement function and turn
on the device. 3. Press the “L-N/L-PE” button to switch to displaying L-N/L-PE voltage. 4.
Press the “VOLT/FREQ” button to switch to displaying voltage/frequency. VI. Residual current
device (RCD) test 1. Connecting the measurement cables Insert the three tips of the
measurement cables into the three corresponding sockets of the device: red to L, green to E,
and blue to N. Set the dial to the appropriate measurement mode ($\times 1/2$, $\times 1$, $\times 5$, and AUTO

RAMP) for the residual current device (RCD) test function and turn on the device.

Next, connect the plug of the measuring cable to the tested circuit (230 V/50 Hz power socket).

2. Wiring Check Check the condition of the wiring by identifying the symbols L-PE, L-N, and N-PE. When the wiring is correct, the symbols L-PE and L-N on the left side of the LCD display are always on, and the symbol N-PE is off. Otherwise, the wiring is incorrect; the appropriate wiring should be checked and corrected until a correct indication is obtained.

Note: Reversing the connections between the E and N ports while checking the wiring may cause the residual current device (RCD) to trip. In this case, the appropriate wiring should be checked and corrected until a correct indication is obtained before proceeding to the next step.

Warning If the wiring is incorrect, do not proceed with the test (do not press the TEST button). Otherwise, this may result in incorrect test results or other hazards.

3. Press the "I n" button to set the tripping current (I n) according to the rated value specified on the residual current device (RCD). The set tripping current value will be displayed at the bottom of the LCD screen. Default value: I n ----- 30 mA 0/180 ----- 0°

4. Conducting the RCD test

1) Set the test parameters.

Test without tripping ----- x1/2: maximum tripping time up to 2000 ms

Tripping test ----- x1: maximum tripping time up to 1000 ms (except 500 mA)

Tripping test ----- - x1 (500 mA): maximum tripping time up to 300 ms

Fast tripping test ----- x5 (only for 10, 20, 30 mA): maximum tripping time up to 40 ms

AUTO RAMP test ----- - 20%~110% of the rated tripping current (I n)

Maximum tripping time up to 300 ms

2) Press the "TEST" button.

Test without tripping ----- The residual current device should not trip.

Tripping test ----- The residual current device should trip.

Fast tripping test x5 ----- The residual current device should trip.

AUTO RAMP test ----- The residual current device should trip; the tripping time and tripping current should be displayed simultaneously.

3) Press the "PHASE/UL" button to change the phase and repeat step 2 above to determine the shortest tripping time (after pressing the "PHASE/UL" button, the set value changes cyclically in the order UL25V 0°, UL25V 180°, UL50V 180°, and UL50V 0°).

4) Press the "PHASE/UL" button to change the phase, and repeat step 2). 5) After completing the test, immediately disconnect the test lead from the power supply. Danger

- Do not touch any exposed metal parts or wires while performing these tests. - During testing, the internal components of the device may become hot. Prolonged continuous operation of the device may cause damage or other hazards. Therefore, it is not recommended to use the device for prolonged continuous testing on production lines in residual current circuit breaker factories. It is only suitable for precise spot testing. - The 300

mA/500 mA trip current test (high current trip test) can only be conducted every five minutes. Vil. Maintenance and Repair

1. Cleaning the Housing

The device's housing should be gently wiped with a dry cloth. Do not use alcohol or solvents, as they may cause corrosion of the housing, especially the LCD display. The device should be protected from moisture. 2. Repair

In case of the following issues, please contact the after-sales service center or a representative of Uni-Trend. A. The device's housing is cracked or components are damaged. B. The LCD display is malfunctioning. C. Unexpected measurement results occur during normal use. D. The buttons do not function properly. E. Noise is heard during measurement. This user manual is subject to change without notice. This document is a translation of the original user manual created by the manufacturer. Detailed information about the distributor/manufacturer's warranty conditions is available at

<https://serwis.innpro.pl/gwarancja>. The product should be regularly maintained (cleaned) by the user or by specialized service points at the user's cost and responsibility. If there is no information about necessary periodic or service maintenance actions in the user manual, the physical condition of the product should be assessed regularly, at least once a week, against that of a physically new product. If any deviation is detected or identified, urgent maintenance (cleaning) or service actions should be taken. Failure to properly maintain (clean) and respond upon detecting a state of deviation may lead to permanent damage to the product. The warranty does not cover damages resulting from neglect. Warnings and Safety Information

All information regarding operation and use can be found in the user manual or on the product label. Before starting to use the products, familiarize yourself with its content and follow the instructions contained therein. Also, review the following information before use:

User Safety

Use measuring tools according to their intended purpose. Do not use measuring tools for tasks they were not designed for to avoid damage or incorrect measurement results. Always ensure that the tool is in good technical condition before use. Damaged tools, such as cracked housings or damaged displays, can lead to incorrect measurements or accident risks. Regularly calibrate measuring tools to ensure their accuracy and reliability of measurements. Incorrectly calibrated devices may 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 individuals to prevent accidental damage or misuse. Avoid using measuring tools in extreme temperature,

humidity conditions, or in atmospheres with high dust concentrations that may affect their accuracy and functionality. Exercise caution when working with measuring tools to avoid damaging delicate measuring elements (e.g., sensors, probes).

Safe Use
Always ensure that the measuring tool is properly set up and secured 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 perform measurements on live components or in conditions that may pose a safety hazard.

Guidelines for Use in Appropriate Conditions

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

When using measuring tools, ensure that they are well seated and not exposed to shocks or impacts that may lead to their damage. Avoid using measuring tools in extreme conditions, such as heavy vibrations, hot surfaces, dust, or moisture, unless the tool is designed for such conditions by the manufacturer.

Maintenance Instructions
Regularly check the condition of measuring tools, especially measuring elements (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. Regularly calibrate measuring tools according to the manufacturer's recommendations to maintain measurement accuracy.

Safe Disposal
Used or damaged measuring tools should be disposed of in accordance with applicable environmental protection and electronic recycling regulations. Do not throw measuring tools into regular waste containers, as they may contain elements harmful to the environment. Contact local authorities or recycling companies for information on the proper disposal of used measuring tools.

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

Environmental Protection
Waste electrical and electronic equipment marked in accordance with the European Union directive must not be placed together with other municipal waste. It is subject to selective collection and recycling at designated points. By ensuring its proper disposal, you prevent potential negative consequences for the natural environment and human health. The collection system for waste equipment complies with locally applicable environmental protection regulations regarding waste disposal. Detailed information on this can be obtained from the municipal office, cleaning facility, or the store where the product was

purchased. The product meets the requirements of the so-called New Approach directives of the European Union (EU) concerning issues related to user safety, health protection, and environmental protection, identifying hazards that should be detected and eliminated.

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