

Δοκιμαστής γείωσης UNI-T UT521

UNI-T · EAN 6935750552100

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

0V~200V(50/60Hz) (1.0%+4)

20 0.00 ~20.00 (2 0%+10) (20)

200 0.0 ~200.0 (2 0%+3) (200 2000)

Auxiliary grounding resistance:

2000 0 ~2000 500

(5%); 10

Compliance with standards:

IEC 61010-1 CATIII 600V Pollution degree 2

IEC 61557-1,5

TEC 61010-2-31

Measurement modes:

(1) Ground voltage measurement: averaged response

(2) Ground resistance measurement: test signal frequency: approximately 820 Hz, current: approximately

3.2 mA in the 20Ω range. Measurement range (max. deviation: ±30%):

Range 20 : 5.00 ~ 20.00

Range 200 : 20.0 ~ 200.0

1. Range 2000 : 200 ~ 2000

Safety sign

This user manual contains safety information related to the use of the tester. Please read it carefully before starting to work with the device.

Operating conditions:

Temperature: 5°C ~ 40°C

Relative humidity: ≤ 80% RH (no condensation)

- Before using the tester, please read and understand this user manual thoroughly.
- Please keep the user manual in a safe place for future reference.
- The tester should be used according to the recommendations in the user manual.
- Please familiarize yourself with the "Safety Information" section in this manual.

Power supply: [6 x 1.5 V alkaline battery (AA)]

- Safety rules must be strictly followed. Otherwise, there may be a risk of personal injury or damage to the tester.

Overload protection:

this manual has 3 different meanings that the user should pay special attention to.

Ground voltage: 400 V AC (30 seconds)

Insulation impedance:

Ω . $>20\text{ M}$ between measurement circuits and the casing. Product dimensions: 160 mm x 70.5 mm x 100 mm. Product weight: approximately 560 g. Equipment:

Green test lead (5 m) - 1 piece

Yellow test lead (10 m) - 1 piece

Red test lead (20 m) - 1 piece

Auxiliary grounding electrodes - 2 pieces

Simple test leads with alligator clips - 1 set

Alkaline battery 1.5 V (AA) - 6 pcs.

Carrying bag - 1 set

User manual in English - 1 piece

- Do not use the tester in an explosive atmosphere, as it may pose a fire or explosion hazard.
- Do not make any connections when the tester or the operator's hands are wet.
- Do not apply voltage exceeding the rated value or specified range of the tester.
- Do not open the battery compartment while taking measurements.
- Do not use the tester if it is damaged or has exposed metal parts.
- Do not disassemble the tester in an unauthorized manner. If repair is necessary, please contact our after-sales service or authorized representative.
- Do not replace the battery or open the battery compartment when the tester is wet.
- Before cleaning, wipe with a dry, soft cloth.
- Before replacing the battery or opening the battery compartment, ensure that the tester is turned off.
- Before starting a measurement, ensure that the test leads are properly connected to the appropriate sockets.
- Remove the battery from the tester if it will not be used for an extended period.
- Do not expose the tester to extreme temperatures and moisture.
- To clean the tester's casing, use a soft cloth and mild detergent.
- The use of abrasive materials and solvents is prohibited.
- Before storing, dry the tester if it is wet.
- Electrical symbols used on the tester or in the manual:

- 1 LCD display
- 2 BACKLIGHT/LOAD button
- 3 STOP/STORE button
- 4 TEST button
- 5 Function selection rotary switch
- 6 Input terminals
- 7 Standard 3-wire test leads
- 8 Simple 2-wire test leads

2. · The tester has been designed using an intelligent microcontroller, which
 · ensures high accuracy and reliability.

Enables the measurement of grounding resistance of electrical power installations, electrical devices, lightning protection systems, etc., as well as the measurement of grounding voltage (It is strongly advised against using the tester in harsh weather conditions, such as rain or storms).

5. • Backlit LCD display; 5.1 Battery status check: Set the rotary switch to the grounding voltage measurement range or • Battery status control; grounding resistance. If the symbol appears, it indicates a low battery charge level and • Data hold and storage (up to 20 sets); the need for replacement. Otherwise, proper operation of the tester may be impossible. • Automatic power off; • Allows precise three-wire measurements and simple two-wire measurements • Indication of "- - - -" signaling an incorrect connection to terminal C or E during measurement • Grounding resistance; 8.2V • Overload indication "OL"; 7.8V~8.2V • Design with double or reinforced insulation. 3. 7.4V~7.8V 7.0V~7.4V

Measurement range and accuracy: <20°C +/- 5°C and < 75% relative humidity. 7V

P/N:110401104451XDATE:2018.06.26 REV.4 5.2 Connection of measurement leads The "Backlight/Load" buttons (short press) are used to navigate up and down. To exit the function, press and hold the "Backlight/Load" button for 2 seconds. Make sure that all measurement leads are properly connected to the input jacks of the tester. 3. Incorrect connection may negatively affect measurement accuracy. Press and hold the "Hold/Save" and "Light/Load" buttons simultaneously, then turn on the device. The LCD will display the message "C L." This will erase all data from memory, regardless of its fill level. 6.2 (50 . , This method is applicable when using an additional grounding electrode is impossible. An exposed object with low grounding resistance is then used as an electrode, e.g., a metal gutter, pipe, common grounding of the power supply installation, building grounding terminal, etc. (using terminals E and P and C). The method of connecting the leads is shown in Figure 3: 6.1 (a. Drive two grounding spikes deep into the ground. The grounding

electrode (E), probe (P), and auxiliary grounding (C) should be placed in a straight line, at a distance of 5 to 10 m from each other. The connection diagram is shown in Figure 2.

(Warning: ensure that the grounding spikes are placed in moist soil. In case of too dry soil, it should be adequately watered. Stony or sandy soils also require moistening before starting the measurement. If the measurement location is in an urban area and covered with concrete, which prevents driving in grounding spikes, two steel plates measuring 25 cm x 25 cm can be placed horizontally on the surface of the concrete (or existing grounding spikes can be used) and covered with a towel soaked in water. This way, we obtain measurement electrodes and under typical conditions, measurement can begin. Reference Grounded electrode Red grounded electrode during the test Yellow Green 3. m m 7. 7.1 Grounded electrode 7.1.1 Auxiliary stakes during the test Replace the battery immediately after the low battery indicator appears. Follow the steps below: 2: 1) Set the rotary switch to the EARTH VOLTAGE position. The LCD indicates the tester's transition to the grounding voltage measurement mode. 2) Insert the test leads into jacks V and E, and then connect them to the measurement points. (Do not connect any leads to the remaining terminals.) 3) The measured value of the grounding voltage is displayed on the LCD. If the measured voltage is higher than 10 V (>10V), all connected electrical devices should be disconnected and wait for the voltage to drop before proceeding to measure the grounding resistance.

Otherwise, it may affect the accuracy of the ground resistance measurement.:

Only the V and E input terminals are used for measuring ground voltage. Do not connect any wires to the C and P terminals. Otherwise, there is a risk of danger and damage to the tester.:

1) Set the rotary switch to the Ground Resistance range of 2000Ω. a. Turn off the tester and disconnect all test leads. 2) Press the "TEST" button. The button will light up, indicating that the device is in measurement mode. The measured value of Ground Resistance will appear on the LCD display. b. Unscrew the screw at the bottom of the housing and open the battery compartment. c. Replace all used batteries (6 pieces) with new ones. Ω. Ω. If the measured Ground Resistance is less than 200 (<200), set the rotary switch to the 200Ω range. d. After replacing the batteries, close the compartment and securely tighten the screw. If not using the tester for an extended period, remove all batteries to prevent leakage and corrosion in the battery compartment. If it is less than 20 (<20), set the rotary switch to the 20Ω range. You can also select the ground resistance range in any order. However, to obtain an accurate result, ensure that the optimal range for the measurement is selected. 7.1.2 In case of poor contact at the input terminal C or E, excessive ground resistance, or an open circuit at the

input terminals ($> 14k\Omega$ in the 20Ω range), the LCD display will show "- - - Ω ". You should check if the test leads are properly connected, if the ground is not too dry, and if the auxiliary grounding probe is correctly placed in the ground.

7.2 In case of the following faults, please contact our after-sales service department or authorized representative:

If the measured ground resistance exceeds the measurement range and is $< 14k\Omega$ in the 20Ω range, $< 26k\Omega$ in the 200Ω range, or $< 78k\Omega$ in the 2000Ω range, the LCD display will show the "OL" (Overload) icon.

a. The tester is damaged. b. The LCD display is malfunctioning. X

The measurement result may be affected by bent auxiliary probes or their contact with other objects. c. There are unacceptable deviations during normal use. Before connecting the test leads, clean the grounding electrodes. Otherwise, high resistance of the auxiliary electrode may cause errors in readings. d. The buttons are malfunctioning. e. Automatic shutdown: The device will automatically turn off to save energy if no buttons are pressed and the rotary switch position is not changed for 10 minutes (except in the ground resistance measurement mode). f. Backlight: During measurements in poorly lit areas, press the "Light/Load" button to turn on the backlight. The appropriate icon will be displayed on the LCD. Pressing the button again turns off the backlight. g. Result hold: During measurement, gently press the "Hold/Save" button to hold the displayed value. The HOLD icon will appear on the LCD. Pressing the button again disables this function. h. Data storage:

1. Data saving: Long press the "Hold/Save" button for 2 seconds activates the data saving function and saves the current measurement. Subsequent short presses of the button will save additional sets of data until the memory is full. To disable the saving function, press and hold the "Hold/Save" button for 2 seconds.

2. Long press the "Backlight/Load" button for 2 seconds displays the data from memory cell NO.01. Short presses of the button display data from subsequent memory cells. To return to the previous data set, briefly press the "Hold/Save" button. (In this mode, the "Hold/Save" button is adapted for this purpose by the manufacturer.

-
-
-
-

Manufacturer

Uni-Trend Technology (China) Co., Ltd. Industrial North 1st Road, Songshan Lake Park,
Dongguan City 6
523808 Dongguan City, China
info@uni-trend.com

Responsible entity in the EU:

UNI-TREND TECHNOLOGY EU GMBH

Affinger Strasse 12

86167 Augsburg, Germany

info@amz-lab.de