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METRAVI ERT-1502

Metravi ERT-1502 Digital Earth Resistance Tester User Manual

Model: ERT-1502

1. PRODUCT OVERVIEW

The Metravi ERT-1502 is a digital earth resistance tester designed for accurate measurement of earth resistance and earth resistivity. This instrument supports both 3-terminal and 4-terminal measurement configurations, offering versatility for various testing requirements. It features a lock button for continuous hands-free measurements and a data hold facility for convenient reading.

The device displays both the test result and the battery voltage on the same screen, ensuring clear and immediate feedback during operation. It complies with CE standards and is rated for CAT-III 1000V, indicating its suitability for professional use in demanding electrical environments.



Figure 1: Front view of the Metravi ERT-1502 Digital Earth Resistance Tester.

2. SAFETY INFORMATION

Before operating the Metravi ERT-1502, please read and understand all safety instructions. Failure to follow these instructions may result in electric shock, fire, or damage to the instrument.

- Always inspect the instrument and test leads for any damage before use. Do not use if damaged.
- Ensure proper connection of test leads to the terminals and the earth system being tested.
- Do not exceed the maximum input ratings specified for the instrument (CAT-III 1000V).
- Avoid touching exposed conductors or terminals during testing.
- Replace batteries promptly when the low battery indicator appears to ensure accurate measurements.
- Do not operate the tester in wet conditions or explosive atmospheres.
- Always disconnect the test leads from the circuit before changing the function switch.

3. SETUP

3.1 Battery Installation

The Metravi ERT-1502 requires 6 AA batteries for operation. These are typically included with the product.

1. Ensure the instrument is powered off.
2. Locate the battery compartment on the rear of the tester.
3. Open the battery compartment cover.
4. Insert 6 AA batteries, observing the correct polarity (+/-) as indicated inside the compartment.
5. Securely close the battery compartment cover.



Figure 2: Battery compartment of the Metravi ERT-1502.

3.2 Connecting Test Leads

The tester comes with a complete testing kit, including necessary cables and earth spikes for various configurations.

1. Identify the input terminals on the top of the instrument: P1, P2, E1 COM, and E2 VΩ.
2. Connect the test leads according to the specific measurement configuration (3-terminal or 4-terminal) required for your application. Refer to the operating instructions for detailed connection diagrams.



Figure 3: Input terminals for test lead connections.

4. OPERATING INSTRUCTIONS

4.1 Powering On and Range Selection

1. Turn the rotary switch from the 'OFF' position to the desired measurement range (e.g., 20 Ω , 200 Ω , 2000 Ω for Earth Resistance or 200k Ω for Low Resistance).
2. The display will illuminate, showing the battery voltage and '0.00' or a similar reading if no test is active.

4.2 Performing Earth Resistance Measurement (3-Terminal Method)

This method is suitable for measuring the resistance of a single earth electrode.

1. Connect the E1 COM and P1 terminals together to the earth electrode under test.
2. Connect the P2 terminal to a potential spike (P) driven into the earth at a suitable distance from the earth electrode.
3. Connect the E2 V Ω terminal to a current spike (C) driven into the earth further away from the potential spike.
4. Select the appropriate resistance range using the rotary switch.

5. Press the 'TEST' button to initiate the measurement. The display will show the earth resistance value.
6. To hold the reading, press the 'HOLD' button. Press again to release.

4.3 Performing Earth Resistance Measurement (4-Terminal Method)

The 4-terminal method provides more accurate measurements by eliminating the resistance of the test leads and contact resistance at the earth electrode.

1. Connect the E1 COM terminal to the earth electrode under test.
2. Connect the P1 terminal to the earth electrode under test (separate connection point from E1 COM).
3. Connect the P2 terminal to a potential spike (P) driven into the earth.
4. Connect the E2 VΩ terminal to a current spike (C) driven into the earth.
5. Proceed with range selection and measurement as described in the 3-terminal method.

4.4 Using Lock Continuous Function

For continuous hands-free measurement, press the 'LOCK CONTINUOUS' button. The tester will continuously measure and display the resistance. Press the button again to deactivate this function.

5. MAINTENANCE

5.1 Cleaning

Wipe the instrument with a soft, damp cloth. Do not use abrasive cleaners or solvents. Ensure the instrument is dry before storage or next use.

5.2 Battery Replacement

When the low battery indicator appears on the display, replace all 6 AA batteries as described in Section 3.1. Always use fresh batteries of the same type.

5.3 Storage

Store the Metravi ERT-1502 in a cool, dry place away from direct sunlight and extreme temperatures. If storing for extended periods, remove the batteries to prevent leakage.

6. TROUBLESHOOTING

- **No Display/Power:** Check battery installation and ensure batteries are fresh. Verify the rotary switch is not in the 'OFF' position.
- **Inaccurate Readings:** Ensure test lead connections are secure and correct for the chosen method. Check that earth spikes are driven deep enough into the ground. Verify the selected measurement range is appropriate for the expected resistance.
- **'OL' or Overload Indication:** This indicates the measured resistance exceeds the selected range. Switch to a higher resistance range.
- **Unstable Readings:** This can be caused by poor contact at the earth spikes or high interference. Try repositioning the spikes or testing at a different time.

7. SPECIFICATIONS

Feature	Specification
Model Number	ERT-1502
Brand	METRAVI
Measurement Type	Ohmmeter
Earth Resistance Range	0 - 20 / 200 / 2000 Ohms
Earth Resistance Accuracy	±2%
Low Resistance Range	0 - 200 kOhms
Low Resistance Accuracy	±2%
Power Source	6 AA Batteries (included)
Dimensions (L x W x H)	20 x 9.2 x 5 cm
Item Weight	1.4 kg (1400 Grams)
Safety Compliance	CE, CAT-III 1000V
Special Features	Measures Earth Resistance and Earth Resistivity, 4-Terminal and 3-Terminal configurations, Data Hold, Lock Button for Continuous Measurement

8. WARRANTY INFORMATION

All Metravi Instruments, including the ERT-1502, come with a **1-year warranty** against manufacturing defects from the date of purchase. This warranty covers defects in materials and workmanship under normal use. It does not cover damage caused by misuse, accident, unauthorized modification, or improper operation.

A blue rectangular graphic with white and yellow text. At the top left is the Metravi logo with the tagline 'Setting Trends. Showing the Way.' Below it, the text 'CONTACT US We will help you!' is written in yellow. To the right is a circular seal with 'WARRANTY' at the top and bottom, and a red banner across the center that says '1 YEAR'. Below the seal, the text 'All Metravi Instruments carry 1 year Warranty against manufacturing defects' is written in white. In the center, a list of support categories is provided: 'with' followed by 'Usage Issues', 'Product Issues', 'Replacements', and 'Warranty'. Below this, a yellow text box contains the instruction: 'Read Operating Manual for instructions carefully. Check for Usage Video on YouTube or our website.' At the bottom, contact information is listed: 'Email online_sales@metravi.com' and 'SMS / WhatsApp 9073384641'. A faint illustration of a multimeter is visible in the bottom right corner of the graphic.

METRAVI
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CONTACT US
We will help you!

with

- *Usage Issues*
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1 YEAR
WARRANTY

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defects

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SMS / WhatsApp 9073384641

Figure 4: Metravi warranty and support details.

9. SUPPORT

For any usage issues, product concerns, replacements, or warranty claims, please contact Metravi Instruments customer support:

- **Email:** online_sales@metravi.com
- **SMS / WhatsApp:** 9073384641

Please refer to the operating manual carefully for instructions. Additional usage videos may be available on the official Metravi YouTube channel or website.