

## METRAVI DIT-911

# Metravi DIT-911 Digital Insulation Resistance Tester User Manual

Model: DIT-911 | Brand: METRAVI

## INTRODUCTION

This manual provides essential information for the safe and effective operation, maintenance, and troubleshooting of the Metravi DIT-911 Digital Insulation Resistance Tester. Please read this manual thoroughly before using the device.

## SAFETY INFORMATION

**WARNING: To avoid electric shock or personal injury, follow these safety guidelines:**

- Always inspect the tester, test leads, and accessories for damage before use. Do not use if damaged.
- Ensure the battery compartment is securely closed before operation.
- Do not apply voltage to the input terminals that exceeds the maximum rated voltage for the instrument.
- Do not operate the tester in wet environments or in the presence of explosive gases or dust.
- Always disconnect the test leads from the circuit under test before changing functions or ranges.
- Use caution when working with voltages above 30V AC RMS, 42V peak, or 60V DC, as these pose a shock hazard.
- Refer to the "Maintenance" section for proper battery replacement procedures.

This device is designed to meet CE standards.

## PRODUCT OVERVIEW

## Key Features

- 3 1/2 Digits 1999 Counts LCD Backlit Display with On/Off function.
- Insulation Resistance Range: 0.00M $\Omega$ ~99M $\Omega$  (Accuracy  $\pm 3\% + 5\text{dgt}$ ); 100M $\Omega$ ~11.0G $\Omega$  (Accuracy  $\pm 5\% + 5\text{dgt}$ ).
- Rated Voltage Range: 250V / 500V / 1000V.
- AC Voltage Test capability.
- Polarisation Index (PI) measurement.
- Insulation Resistance Value Absorption Ratio (DAR) measurement.
- Automatic Discharge function.
- Alarm function.
- Battery Operated.

## Components



**Figure 1:** Front view of the Metravi DIT-911 Digital Insulation Resistance Tester, showing the LCD display, function selector dial, and input terminals.

# WHAT'S IN THE BOX



**Figure 2:** The package contents include the meter, test leads, crocodile clips, user manual, and a soft carrying case.

The Metravi DIT-911 package includes:

- Meter (DIT-911 unit)
- Test Leads
- Crocodile Clips
- User Manual
- Soft Carrying Case
- 2 AA Batteries (included)

## SETUP

### 1. Battery Installation

1. Locate the battery compartment on the rear of the tester.
2. Open the battery compartment cover.
3. Insert 2 AA batteries, ensuring correct polarity (+/-).
4. Close the battery compartment cover securely.



**Figure 3:** Rear view of the Metravi DIT-911 tester, indicating the location of the battery compartment.

## 2. Connecting Test Leads

1. Identify the input terminals on the front panel: LINE, V, G, and EARTH.
2. Connect the red test lead to the LINE terminal and the black test lead to the EARTH terminal for insulation resistance measurements.
3. For AC Voltage measurements, connect the test leads to the V and G terminals as appropriate.
4. Attach the crocodile clips to the test leads if required for secure connections.

## OPERATION

Before operating, ensure the tester is set to the correct function and range for the measurement you intend to perform.

### 1. Power On/Off

- Turn the rotary switch from "OFF" to any desired measurement function to power on the device.
- To power off, turn the rotary switch back to the "OFF" position.

## 2. Insulation Resistance Measurement

1. Rotate the function selector dial to one of the insulation resistance test voltages (250V, 500V, or 1000V).
2. Connect the test leads to the circuit or component under test. Ensure the circuit is de-energized.
3. Press and hold the "PRESS TO TEST" button to initiate the insulation resistance test. The display will show the measured resistance.
4. Release the "PRESS TO TEST" button to stop the test. The automatic discharge function will safely discharge any stored energy.

*Note: The alarm function will activate if the measured resistance falls below a certain threshold, indicating potential insulation breakdown.*

## 3. AC Voltage Measurement

1. Rotate the function selector dial to the "AC.V" position.
2. Connect the test leads to the AC voltage source.
3. The display will show the measured AC voltage.

## 4. Polarisation Index (PI) and Dielectric Absorption Ratio (DAR) Measurement

1. Select the desired insulation test voltage (e.g., 1000V).
2. Connect the test leads to the insulation system.
3. Press the "PI/DAR" button. The tester will automatically perform the necessary measurements over time to calculate PI and DAR values.
4. The results will be displayed on the LCD. Refer to electrical standards for interpretation of PI and DAR values.

## 5. Backlight Function

- Press the backlight button (often indicated by a light bulb icon) to turn the LCD backlight on or off for improved visibility in low-light conditions.

## MAINTENANCE

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### Cleaning

- Wipe the case with a damp cloth and mild detergent. Do not use abrasives or solvents.
- Ensure the device is powered off and disconnected from any circuits before cleaning.

### Battery Replacement

- When the low battery indicator appears on the display, replace the batteries promptly.
- Refer to the "Battery Installation" steps in the Setup section. Use 2 AA batteries.
- Dispose of old batteries according to local regulations.

## Storage

- If the tester is not used for an extended period, remove the batteries to prevent leakage.
- Store the device in its soft carrying case in a cool, dry place, away from direct sunlight and extreme temperatures.

## TROUBLESHOOTING

| Problem                              | Possible Cause  | Solution  |
|--------------------------------------|---|---|
| Tester does not power on.            | Dead or incorrectly installed batteries.  | Check battery polarity; replace batteries.  |
| No reading or unstable reading.      | Loose or damaged test leads; incorrect function/range selected; circuit not properly connected. | Ensure test leads are securely connected; select appropriate function/range; verify circuit connection. |
| Display shows "OL" (Overload).       | Measurement exceeds the selected range.   | Switch to a higher range if available, or verify the circuit is within the tester's capabilities.       |
| Alarm sounds during insulation test. | Measured insulation resistance is below the alarm threshold.                                    | This indicates potential insulation failure. Investigate the circuit under test.                        |

## SPECIFICATIONS

| Parameter                   | Detail  |
|-----------------------------|---|
| Model                       | DIT-911   |
| Display                     | 3 1/2 Digits, 1999 Counts LCD with Backlight    |
| Insulation Resistance Range | 0.00MΩ~99MΩ (±3%+5dgt); 100MΩ~11.0GΩ (±5%+5dgt) |
| Rated Test Voltages         | 250V, 500V, 1000V                               |
| AC Voltage Test             | Yes   |
| PI Measurement              | Yes   |
| DAR Measurement             | Yes   |
| Automatic Discharge         | Yes   |
| Alarm Function              | Yes   |

| Parameter         | Detail                              |
|-------------------|-------------------------------------|
| Power Source      | Battery Powered (2 AA batteries)    |
| Item Weight       | 890 g                               |
| Dimensions        | 23 x 16 x 8 cm (Package Dimensions) |
| Manufacturer      | Metravi Instruments                 |
| Country of Origin | China                               |
| Certification     | CE                                  |

## WARRANTY AND SUPPORT

For warranty information and technical support, please contact Metravi Instruments directly. Details can typically be found on the product packaging or the official Metravi website.

Manufacturer Contact: [servicing@metravi.com](mailto:servicing@metravi.com)

Please retain your purchase receipt as proof of purchase for warranty claims.