

MiBoce dd0257000848

MiBoce Digital Insulation Resistance Tester

Model: dd0257000848

1. INTRODUCTION

This manual provides essential information for the safe and effective operation of your MiBoce Digital Insulation Resistance Tester. This intelligent instrument utilizes microcomputer technology, large-scale integrated circuits, and digital circuits to provide powerful measurement and data processing capabilities. It is designed for measuring insulation resistance, voltage, and low resistance, making it suitable for on-site power equipment and power supply line inspection and maintenance.

2. SAFETY INFORMATION

Please read and understand all safety warnings and operating instructions before using this instrument. Failure to follow these instructions may result in electric shock, fire, or damage to the instrument.

- **High Voltage Warning:** This device generates high voltage during insulation resistance tests. Always ensure proper connections and never touch test leads or the circuit under test during operation.
- **Battery Safety:** Do not mix old and new batteries. Ensure correct battery polarity during installation. Do not operate the instrument with the battery compartment open.
- **Environmental Conditions:** Use the instrument within specified environmental limits (temperature, humidity). Avoid using in wet or explosive atmospheres.
- **Inspection:** Before each use, inspect the instrument and test leads for any damage. Do not use if damaged.
- **Qualified Personnel:** Only qualified personnel should perform electrical measurements and maintenance.

3. PRODUCT FEATURES

The MiBoce Digital Insulation Resistance Tester offers a range of features designed for efficient and accurate measurements:

- **Test Voltages:** Selectable test voltages of 100V, 250V, 500V, and 1000V.
- **Auto Range:** Automatic ranging for insulation resistance measurements.

- **Data Storage:** Capability to store measurement data for later review.
- **Comparison Measurement:** Allows for comparison of current readings against a set reference.
- **Polarization Index (PI) Measurement:** Automatically calculates the PI ratio based on timed measurements.
- **Dielectric Absorption Ratio (DAR) Measurement:** Automatically calculates the DAR ratio.
- **LCD Backlight:** Ensures clear visibility of readings in various lighting conditions.
- **Analog Bar Graph:** A 30-segment analog bar graph provides a quick visual indication of resistance trends.
- **Over-range Warning:** Alerts the user when measurements exceed the instrument's range.
- **High Voltage Indication:** Visual indicator when high voltage is present at the test leads.
- **Timing Measurement:** Supports timed insulation resistance tests, typically around 30 minutes.
- **Auto Power Off:** Conserves battery life by automatically shutting down after a period of inactivity.
- **Low Battery Indication:** Alerts the user when batteries need replacement.

4. SETUP

4.1 Battery Installation

The instrument requires 8 x 1.5V LR14 batteries (not included). To install or replace batteries:

1. Ensure the instrument is powered off and all test leads are disconnected.
2. Locate the battery compartment on the back of the unit.
3. Open the battery compartment cover.
4. Insert 8 LR14 batteries, paying close attention to the correct polarity (+/-) as indicated inside the compartment.
5. Close the battery compartment cover securely.



Image Description: This image shows the underside of the MiBoce Digital Insulation Resistance Tester with the battery compartment cover removed, revealing the slots for eight LR14 batteries. This illustrates the correct location for battery installation.

4.2 Connecting Test Leads

The instrument comes with standard accessories including two single-plug test leads with clips (black and green) and one two-plug test lead with a clip (red). Connect the test leads to the appropriate terminals on the front panel:

- **V Terminal:** For voltage measurements.
- **EARTH Terminal:** Ground connection for insulation resistance tests.
- **COM Terminal:** Common terminal for various measurements.
- **LINE A Terminal:** Line connection for insulation resistance tests.



Image Description: This image provides a detailed view of the input terminals (V, EARTH, COM, LINE A) on the top panel of the tester, crucial for connecting test leads. It also shows the side panel with a trap door, adapter jack button, and USB insertion hole, indicating connectivity options.

5. OPERATING INSTRUCTIONS

5.1 Powering On/Off

Press the **ON/OFF** button to power the instrument on or off.

5.2 Display Overview

The large LCD provides clear readings and various indicators. The backlight can be activated for improved visibility.

The measurement data function symbols are displayed, the readings are clear at a glance and the data can be displayed with backlight.



Image Description: This image focuses on the LCD display of the tester, showing measurement data, function symbols, and a clear digital readout. The display indicates a 100V test voltage, resistance in MΩ, and a timer, demonstrating the clarity provided by the backlight.

5.3 Insulation Resistance Measurement

1. Connect the test leads to the circuit under test (e.g., LINE A and EARTH terminals).
2. Select the desired test voltage (100V, 250V, 500V, or 1000V) using the appropriate buttons.
3. Press the **TEST** button to initiate the measurement. The high voltage indicator will illuminate.
4. Read the insulation resistance value on the LCD. The analog bar graph provides a visual trend.
5. Press **E-STOP** or release the **TEST** button to stop the measurement and discharge the circuit.

5.4 PI and DAR Measurement

The instrument can automatically calculate Polarization Index (PI) and Dielectric Absorption Ratio (DAR). Refer to the on-screen prompts and specific buttons for these functions.

5.5 Data Storage and Recall

Use the **SAVE** button to store current measurement data. The **LOAD** button allows you to recall previously saved data.

5.6 DC/AC Voltage Measurement

Connect the test leads to the circuit. Select the DCV/ACV mode to measure DC or AC voltage up to 1000V DC or 750V AC.

6. MAINTENANCE

6.1 Cleaning

Wipe the instrument's casing with a soft, damp cloth. Do not use abrasive cleaners or solvents. Ensure no moisture enters the instrument.

6.2 Battery Replacement

When the low battery indicator appears on the display, replace all 8 LR14 batteries as described in Section 4.1. Remove batteries if the instrument will not be used for an extended period.

6.3 Storage

Store the instrument in a cool, dry place, away from direct sunlight and extreme temperatures. Keep it in its original packaging or a protective case to prevent damage.

7. TROUBLESHOOTING

- **Instrument does not power on:** Check battery installation and ensure batteries are fresh.
- **No reading or unstable reading:** Ensure test leads are securely connected to both the instrument and the circuit under test. Check for damaged leads.
- **"OL" or Over-range indication:** The measured value exceeds the instrument's maximum range for the selected test voltage. This may indicate an open circuit or extremely high resistance.
- **Low battery indicator:** Replace all 8 LR14 batteries.
- **High voltage warning remains after test:** Ensure the circuit has been fully discharged. Do not touch test leads until the high voltage indicator is off.

8. SPECIFICATIONS



Image Description: This image displays the MiBoce Digital Insulation Resistance Tester from an angled front view, highlighting its physical dimensions: 202mm in height, 155mm in width, and 94mm in depth. This provides a clear visual reference for the product's size.

Parameter	Specification
Insulation Resistance Test Voltages	100V, 250V, 500V, 1000V (0%~20% tolerance)
Insulation Resistance Range (100V)	0.1MΩ ~ 500MΩ; ±(3%+5)
Insulation Resistance Range (250V)	0.5MΩ ~ 2GΩ; ±(3%+5)

Parameter	Specification
Insulation Resistance Range (500V)	1M Ω ~ 4G Ω ; $\pm(3\%+5)$
Insulation Resistance Range (1000V)	2M Ω ~ 10G Ω ; $\pm(3\%+5)$
DC Voltage (V)	Up to 1000V; $\pm(2\%+3)$
AC Voltage (V)	Up to 750V; $\pm(2\%+3)$
Short-circuit Current	<2mA
Low Resistance (Ω)	0.1 Ω ~ 999.9 Ω ; $\pm(1\%+3)$
Power Supply	8 x 1.5V LR14 Batteries
Display Size	123mm x 58mm
Product Color	Red and Grey
Product Net Weight	1.2kg
Product Dimensions	202mm x 155mm x 94mm
Standard Accessories	2pcs one-plug test lead to one clip (black and green), 1pcs two-plug test lead to one clip (red)

9. WARRANTY AND SUPPORT

Specific warranty information and customer support contact details are not provided within this manual. Please refer to the product packaging or the seller's website for warranty terms and support options.