

Bloepum ZC25-4

ZC25-4 Insulation Resistance Tester User Manual

Brand: Bloepum | Model: ZC25-4

1. PRODUCT OVERVIEW

The Bloepum ZC25-4 Insulation Resistance Tester is a robust and reliable instrument designed for measuring insulation resistance in various electrical systems. This hand-cranked megohmmeter provides accurate measurements and is suitable for electricians and industrial applications. Its durable plastic construction ensures longevity in demanding environments.

Key features include accurate measurement, smooth hand cranking for power generation, and sensitive readings for precise analysis.



Figure 1: Front view of the ZC25-4 Insulation Resistance Tester, showing the dial and terminals.

2. PACKAGE CONTENTS

Upon unpacking, please verify that all components are present and undamaged:

- 1 x ZC25-4 Insulation Resistance Tester

3. COMPONENTS IDENTIFICATION

Familiarize yourself with the main parts of the insulation resistance tester:

- **Measurement Dial:** Displays the insulation resistance reading in MΩ.
- **Hand Crank:** Used to generate the necessary test voltage.
- **Test Terminals:** Connection points for test leads (typically Line and Earth).

- **Protective Ring Terminal:** For guarding against surface leakage currents during high-resistance measurements.



Figure 2: Rear view showing the hand crank for power generation.



Detail
presentation



Clear and large dial for more accurate reading

LARGE CLEAR DIAL MORE ACCURATE READING



Figure 3: Detailed view of the measurement dial for accurate readings.

4. SAFETY INFORMATION

Always adhere to the following safety precautions to prevent injury or damage to the instrument:

- Ensure the device under test is de-energized and safely isolated before connecting the tester.
- Wear appropriate personal protective equipment (PPE), including insulated gloves and safety glasses.
- Do not use the tester in wet conditions or in the presence of explosive gases or vapors.
- Inspect test leads for damage before each use. Replace if any damage is found.
- Never touch the test leads or the device under test during a measurement.

5. SETUP AND INITIAL TEST

Before performing any measurements, ensure the tester is in good working condition.

1. **Initial Check (Wireless Conditions):** With no test leads connected, turn the hand crank clockwise. The pointer should move to the right and eventually settle at the '∞' (infinity) position, indicating an open circuit.
2. **Check L and E Terminals:** Short-circuit the Line (L) and Earth (E) terminals with a test stick.
3. **Test with Short Circuit:** Turn the hand crank clockwise. The pointer should slide to the left and stop at the '0' position, indicating a short circuit.

Usage of MEGOHMMETER

Tips: test whether the MEGOHMMETER works properly before use.



1. Clockwise under wireless conditions

Shake handle



2. Under normal circumstances, the pointer slides to the right.

Finally stay in the "∞" position.



3. Check both L and E terminals

Test stick short



4. Turn slowly clockwise

Moving handle



5. Under normal circumstances, Pointer

Slide to the left and stop at last

In the position of "0"

Figure 4: Visual guide for initial testing and usage of the megohmmeter.

6. OPERATING INSTRUCTIONS

Follow these steps to perform an insulation resistance measurement:

- 1. Connect Test Leads:** Connect the test leads to the appropriate terminals of the device under test. Typically, the 'Line' terminal of the tester connects to the conductor being tested, and the 'Earth' terminal connects to the ground or chassis.
- 2. Generate Test Voltage:** Turn the hand crank clockwise at a steady speed of approximately 120 revolutions per minute. Maintain a consistent speed to ensure a stable test voltage.
- 3. Read Measurement:** Once the pointer on the dial stabilizes, read the insulation resistance value in MΩ.
- 4. Use Protective Ring (if applicable):** For high resistance measurements where surface leakage might affect accuracy, connect the protective ring terminal to the guard electrode of the test setup. This helps eliminate errors caused by surface leakage currents.
- 5. Disconnect:** After the measurement, stop cranking and disconnect the test leads from the device under test.

7. MAINTENANCE AND STORAGE

Proper maintenance ensures the longevity and accuracy of your ZC25-4 Insulation Resistance Tester:

- **Cleaning:** Wipe the instrument with a soft, dry cloth. Do not use abrasive cleaners or solvents.
- **Storage:** Store the tester in a dry, dust-free environment, away from direct sunlight and extreme temperatures.
- **Inspection:** Periodically inspect the casing, terminals, and hand crank for any signs of damage or wear.

8. TROUBLESHOOTING

If you encounter issues with your ZC25-4 Insulation Resistance Tester, consider the following:

- **No Pointer Movement:** Ensure the hand crank is being turned at a sufficient speed (approx. 120 RPM). Check for any mechanical obstruction in the crank mechanism.
- **Inaccurate Readings:** Verify that test leads are securely connected and not damaged. Ensure the device under test is properly isolated and de-energized. Consider using the protective ring terminal for high resistance measurements to mitigate surface leakage effects.
- **Pointer Stuck:** If the pointer does not move freely, the instrument may require professional servicing. Do not attempt to open the casing.

9. SPECIFICATIONS

Parameter	Value
Model	ZC25-4
Type	Insulation Resistance Tester
Test Voltage	1000V
Measuring Range	0-1000 MΩ
Accuracy	±5%
Operating Environment	-25°C to +40°C
Measuring Levels	10 Levels
Color	Silver
Material	Plastic
Item Weight	1.98 pounds
Product Dimensions	9.84 x 5.91 x 3.94 inches
Batteries Required	No

10. WARRANTY AND SUPPORT

Specific warranty details and direct support contact information are not provided in the product data. For

warranty claims or technical assistance, please refer to the retailer or manufacturer's official website where the product was purchased.

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