Introduction

Thank you for choosing the Hioki RM9004 Test Fixture. Preserve this manual carefully and keep it handy to make full use of this device for a long time. Familiarize yourself with the RM2610 Electrode Resistance Measurement System Instruction Manual and the separate document entitled “Operating Precautions” before using the device.

Target audience

This manual has been written for use by individuals who use this product or who teach others to do so. It is assumed that the reader possesses basic electrical knowledge (equivalent to that of someone who graduated from the electrical program at a technical high school).

Safety notations

This manual classifies seriousness of risks and hazard levels as described below.

<table>
<thead>
<tr>
<th>Safety Notation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="https://via.placeholder.com/15" alt="Exclamation Mark" /> CAUTION</td>
<td>Indicates a potentially hazardous situation that may result in minor or moderate injury to the operator or damage to the device or malfunction.</td>
</tr>
<tr>
<td><img src="https://via.placeholder.com/15" alt="Exclamation Mark" /> IMPORTANT</td>
<td>Indicates information or content that is particularly important from the standpoint of operating or maintaining the device.</td>
</tr>
<tr>
<td><img src="https://via.placeholder.com/15" alt="Exclamation Mark" /> IMPORTANT (Not Performed)</td>
<td>Indicates an action that must not be performed.</td>
</tr>
<tr>
<td><img src="https://via.placeholder.com/15" alt="Exclamation Mark" /> IMPORTANT (Perform)</td>
<td>Indicates an action that must be performed.</td>
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</tbody>
</table>

Inspection

Check if there is any damage to the device occurred during storage or shipping and verify that device operates normally before using it. See the RM2610 Electrode Resistance Measurement System Instruction Manual for how to inspect using the included probe inspection board.

Troubleshooting

If damage is suspected, read the “Before having your product repaired” section of the RM2610 Electrode Resistance Measurement System Instruction Manual before contacting your authorized Hioki distributor or reseller.

Precautions when transporting the device

Be sure to observe these precautions.

- To avoid damage to the device, remove the RM2611 Electrode Resistance Meter and RM9003 Press Unit from the device. Additionally, use the packaging in which the device was packed when you purchased it, and be sure to doublebox it. Hioki cannot guarantee that the device will not be damaged during transport.
- Attach a description of the issue when sending out your device for repair.

Operating Precautions

Follow these precautions to ensure safe operation and to obtain the full benefits of the various functions.

- **CAUTION**
  - Do not place the device on an unstable or uneven surface. Doing so could cause the device to fall or turn over, causing bodily injury or damage to the device.
  - Do not touch the tips of the probes. When an object other than the measurement target comes into contact with probes, they may be damaged.

IMPORTANT

- The RM9004 Test Fixture’s probes are consumable parts. They require periodic replacement but are not customer-replaceable. Please contact your authorized Hioki distributor or reseller for more information.
- Always use the test fixture case when storing or transporting the test fixture.

Specifications

- **Operating environment**: Indoors, Pollution Degree 2, altitude up to 2000 m (6562 ft.)
- **Operating temperature and humidity**: 23°C±5°C (73°F±9°F), 80% RH or less (no condensation)
- **Storage temperature and humidity**: 0°C to 50°C (32°F to 122°F), 80% RH or less (no condensation)
- **Connector**: Test fixture terminal (Connect to Model RM8011 by using the RM9005 Connection Cable)
- **Dimensions**: Approx. 130W × 100D × 890H mm (5.12″W × 3.94″D × 35.04″H)
- **Mass**: Approx. 770 g (27.2 oz.)
- **Number of probes**: 46
- **Probe (buckling probe)**: Tip protrusion: Approx. 250 µm, Probe diameter (reference value): φ75 µm, Tip shape: needle, tip SR, Probe load (reference value): 0.044 N/ per probe, Material: tool steel, gold coating
- **Probe distance**: 120 µm

Overview

The RM9004 Test Fixture is designed exclusively for use with the Electrode Resistance Measurement System. It should be affixed to the RM9003 Press Unit prior to use.
Assembly (RM9003, RM9004, RM9005)

**CAUTION**
To avoid equipment damage, turn off the RM2611 Electrode Resistance Meter before connecting or disconnecting the RM9005 Connection Cable.

**Preparations**
Remove the four mounting screws from the top of the RM9004 Test Fixture and remove the test fixture from the test fixture case. After removing the test fixture from the case, do not place it on a surface with the probe surface facing down.

**Assembly**
1. Place the RM9003 Press Unit’s up/down lever in the raised position.
2. Slide the RM9004 Test Fixture into position along the RM9003 Press Unit’s test fixture insertion rails. Push the test fixture toward the rear until it won’t go any further.
3. Pull the test fixture lock lever toward you and downward and then let go to lock. The RM9004 Test Fixture will lock in place.
4. Connect the grounding cable on the rear of the RM9003 Press Unit to the ground terminal on the RM9004 Test Fixture.
5. Connect the connector on the RM9004 (the female side) and connector on the RM2611 (the male side) using the RM9005 Connection Cable and screws that hold it in place.
6. Secure the RM9005 Connection Cable in place with the cable clamp. There are screws for attaching the cable clamp on the left and right sides of the RM9003 Press Unit. Choose the appropriate side based on the position of the device.

**Part Names**
- **Front and top of the RM9004**
  - Up/down lever
  - RM9003 Press Unit
  - Test fixture insertion rail
  - RM9004 Test Fixture
  - Test fixture lock lever
  - Connector
  - Ground terminal
  - Probe guard
  - Probe
  - (Bottom)
  - Mounting screws × 4
  - Test fixture
  - Connector
  - Ground terminal
  - Probe guard
  - Probe
  - (Bottom)
  - Case

**Cleaning**

**CAUTION**
- Use a compressed air pressure of 207 kPa (2.1 kgf/cm², 30 psi) or less.
- Wear a dustproof mask and dustproof goggles while cleaning the device.

**IMPORTANT**
The probes are extremely thin. Do not clean them with anything other than air. Tighten the test fixture clamp knob securely so that it is not loose.

**Cleaning the probe**
1. Verify that the test fixture lock lever is in the lowered position.
2. Rotate the test fixture clamp knob counterclockwise to disengage the lock. While doing so, rotate the test fixture clamp knob toward the UNLOCK position until the screw is fully removed while holding the RM9004 Test Fixture still. The base (bottom) of the RM9004 Test Fixture will gradually move so that it faces toward the front of the unit.
3. Once the base of the test fixture is fully facing toward the front, pull out the maintenance plunger to lock the RM9004 Test Fixture in place.
4. Remove dust from the probes using the compressed air gun or blower.
5. Repeat the above procedure in reverse after cleaning to return the test fixture to its original state.