

RM9004

TEST FIXTURE

Instruction Manual

EN

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RM9004A961-00 19-07H



HIOKI

www.hioki.com/

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- EU declaration of conformity can be downloaded from our website.
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All regional contact information

Warranty Certificate

HIOKI

Model	Serial number	Warranty period
		Three (3) years from date of purchase (___ / ___)
Customer name: _____		
Customer address: _____		
Important		
<ul style="list-style-type: none"> • Please retain this warranty certificate. Duplicates cannot be reissued. • Complete the certificate with the model number, serial number, and date of purchase, along with your name and address. The personal information you provide on this form will only be used to provide repair service and information about Hioki products and services. 		
This document certifies that the product has been inspected and verified to conform to Hioki's standards. Please contact the place of purchase in the event of a malfunction and provide this document, in which case Hioki will repair or replace the product subject to the warranty terms described below.		
Warranty terms		
1. The product is guaranteed to operate properly during the warranty period (three [3] years from the date of purchase). If the date of purchase is unknown, the warranty period is defined as three (3) years from the date (month and year) of manufacture (as indicated by the first four digits of the serial number in YYMM format).		
2. If the product came with an AC adapter, the adapter is warranted for one (1) year from the date of purchase.		
3. The accuracy of measured values and other data generated by the product is guaranteed as described in the product specifications.		
4. In the event that the product or AC adapter malfunctions during its respective warranty period due to a defect of workmanship or materials, Hioki will repair or replace the product or AC adapter free of charge.		
5. The following malfunctions and issues are not covered by the warranty and as such are not subject to free repair or replacement:		
<ul style="list-style-type: none"> -1. Malfunctions or damage of consumables, parts with a defined service life, etc. -2. Malfunctions or damage of connectors, cables, etc. -3. Malfunctions or damage caused by shipment, dropping, relocation, etc., after purchase of the product -4. Malfunctions or damage caused by inappropriate handling that violates information found in the instruction manual or on precautionary labeling on the product itself -5. Malfunctions or damage caused by a failure to perform maintenance or inspections as required by law or recommended in the instruction manual -6. Malfunctions or damage caused by fire, storms or flooding, earthquakes, lightning, power anomalies (involving voltage, frequency, etc.), war or unrest, contamination with radiation, or other acts of God -7. Damage that is limited to the product's appearance (cosmetic blemishes, deformation of enclosure shape, fading of color, etc.) -8. Other malfunctions or damage for which Hioki is not responsible 		
6. The warranty will be considered invalidated in the following circumstances, in which case Hioki will be unable to perform service such as repair or calibration:		
<ul style="list-style-type: none"> -1. If the product has been repaired or modified by a company, entity, or individual other than Hioki -2. If the product has been embedded in another piece of equipment for use in a special application (aerospace, nuclear power, medical use, vehicle control, etc.) without Hioki's having received prior notice 		
7. If you experience a loss caused by use of the product and Hioki determines that it is responsible for the underlying issue, Hioki will provide compensation in an amount not to exceed the purchase price, with the following exceptions:		
<ul style="list-style-type: none"> -1. Secondary damage arising from damage to a measured device or component that was caused by use of the product -2. Damage arising from measurement results provided by the product -3. Damage to a device other than the product that was sustained when connecting the device to the product (including via network connections) 		
8. Hioki reserves the right to decline to perform repair, calibration, or other service for products for which a certain amount of time has passed since their manufacture, products whose parts have been discontinued, and products that cannot be repaired due to unforeseen circumstances.		
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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 the product in question 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.

CAUTION	Indicates a potentially hazardous situation that may result in minor or moderate injury to the operator or damage to the device or malfunction.
IMPORTANT	Indicates information or content that is particularly important from the standpoint of operating or maintaining the device.
	Indicates an action that must not be performed.
	Indicates an action that must be performed.

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 follow 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.

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.

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 RM2611 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
Product warranty period	3 years Probes are considered consumables and as such are not covered by the product warranty.
Accessories	Instruction manual Test fixture case Mounting screws × 4 Probe inspection board

See the RM2610 Electrode Resistance Measurement System Instruction Manual for connector pin and measurement probe assignments.

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.

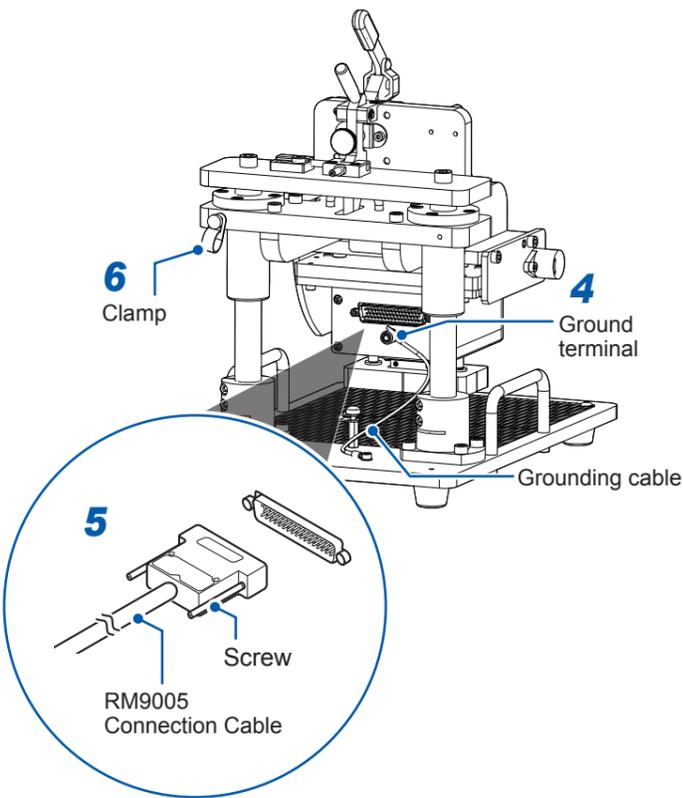
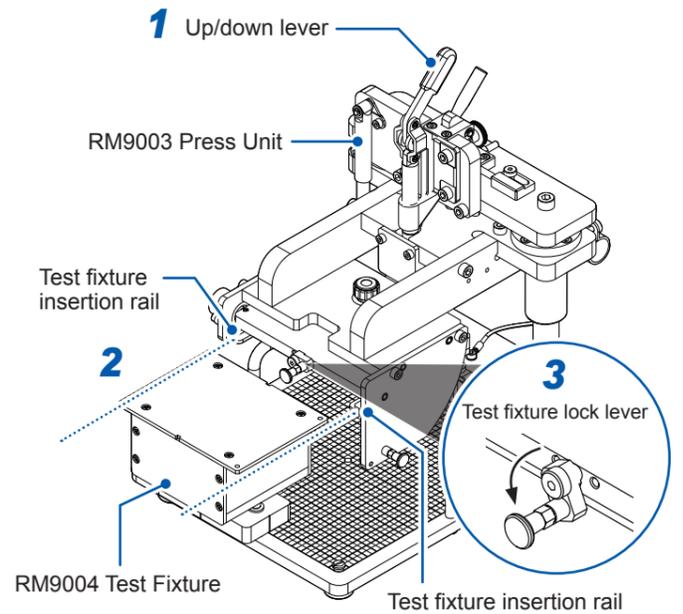
After removing the test fixture from the case, do not place it on a surface with the probe surface facing down.

Assembly

- Place the RM9003 Press Unit's up/down lever in the raised position.
- 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.
- Pull the test fixture lock lever toward you and downward and then let go to lock. The RM9004 Test Fixture will lock in place.
- Connect the grounding cable on the rear of the RM9003 Press Unit to the ground terminal on the RM9004 Test Fixture.
- 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.
- 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.

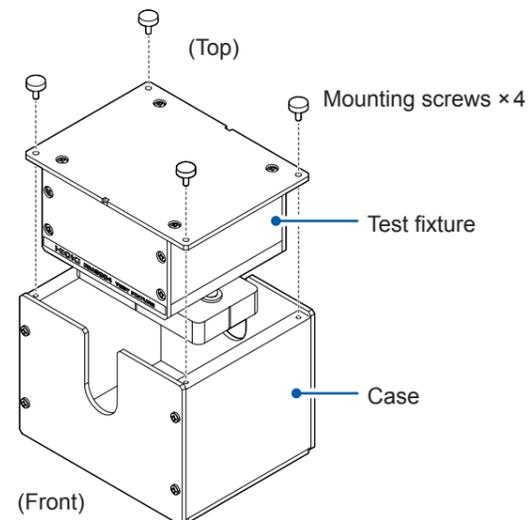
IMPORTANT

- When connecting the RM9005 Connection Cable, insert the cable into the connector firmly and tighten it in place with screws. If the screws loosen, the resulting poor contact could cause a measurement error.
- Exercise care not to lose the test fixture case's mounting screws, which you will need in order to store the RM9004 Test Fixture during transport.



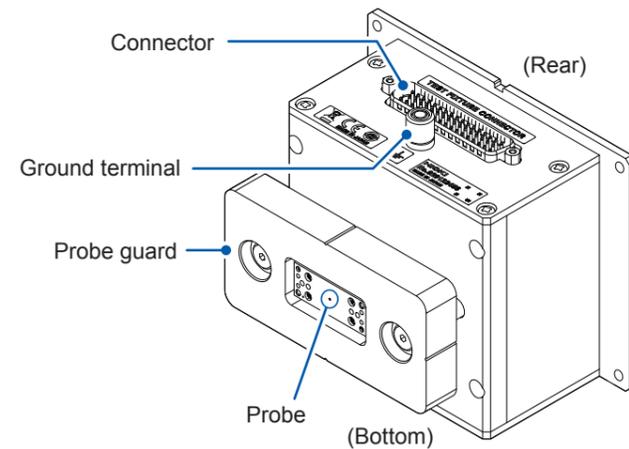
Part Names

Front and top of the RM9004



Remove the mounting screw found at each of the four corners on top of the fixture and remove the test fixture from its case.

Bottom and rear of the RM9004



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

- Verify that the test fixture lock lever is in the lowered position.
- 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.
- 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.
- Remove dust from the probes using the compressed air gun or blower.
- Repeat the above procedure in reverse after cleaning to return the test fixture to its original state.

