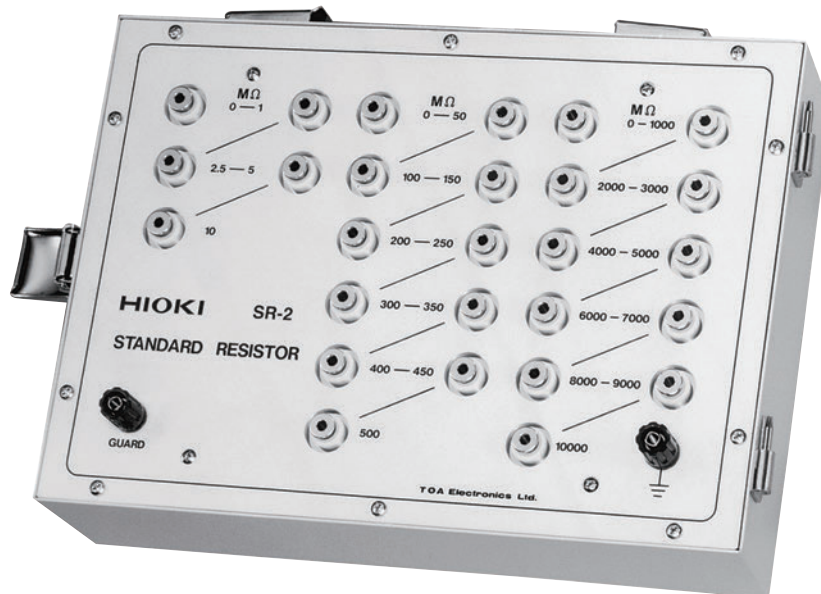


SR-2

Instruction Manual

STANDARD RESISTOR



Read carefully before use.
Keep for future reference.

Contents

Introduction.....	5
Precautions in Handling.....	5
Overview.....	6
Part Names.....	6
Preparing for Measurement.....	7
When using with the SM7110.....	7
When using with the SM-8000 series.....	8
Making Measurements.....	9
Specifications.....	9
Calibration and Maintenance.....	9
Dimensions.....	10
Internal Circuit.....	11
Warranty Certificate	

Introduction

Thank you for choosing the Hioki SR-2 Standard Resistor. To ensure your ability to get the most out of this device over the long term, please read this manual carefully and keep it available for future reference.

The latest edition of the instruction manual

The contents of this manual are subject to change, for example as a result of product improvements or changes to specifications.

The latest edition can be downloaded from Hioki's website.

<https://www.hioki.com/global/support/download/>



Product registration

Register this product in order to receive important product information.

<https://www.hioki.com/global/support/myhioki/registration/>



Precautions in Handling

Pay particular attention to the following when handling the device.

- When measurement is influenced by external inductance or noise, be sure to ground the earth terminal.
- For simplified calibration of SM-8000 series super megohmmeters, connect a guard tip (used as guard tip of red measuring rod) to the GUARD terminal of this device to prevent current leakage among terminals of this device.
See "When using with the SM-8000 series" (p. 8)
- It is recommended that this device is calibrated periodically.
- When this device is not in use, put the lid on it and keep it at less humidity place.

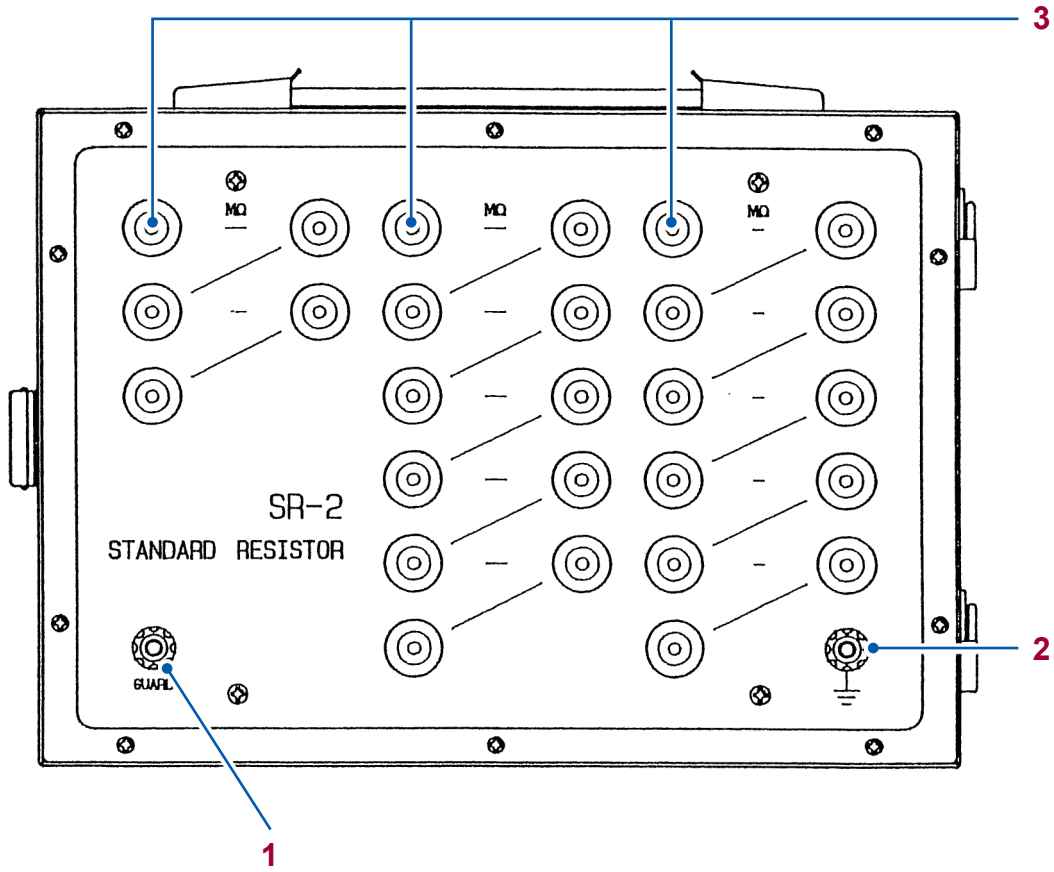
Overview

This device is used for simplified calibration of various kinds of super megohmmeters like models SM7110 and SM-8000 series.

In this device, a total of 24 ultra-precision resistors are encased in a sealed metal case and each element can be connected on the terminal plate in various combination as required.

Also provided on the terminal plate are a GUARD terminal and a grounding terminal for preventing current leakage among terminals and external inductance.

Part Names

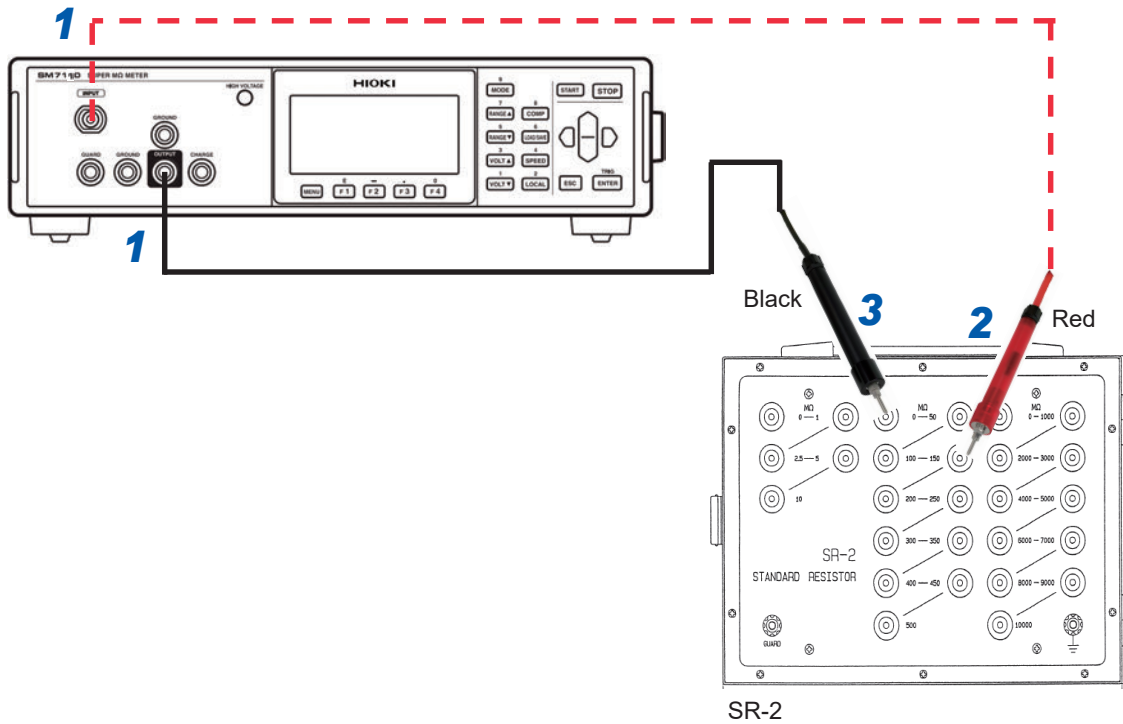


1	GUARD terminal	A terminal to connect to a guard of insulation tester (guard tip of red measuring rod) to prevent current leakage.
2	Grounding terminal	A terminal to ground this unit, when influenced by external inductance or noise.
3	0 terminal	A reference terminal on each resistance range, each connected internally.

Preparing for Measurement

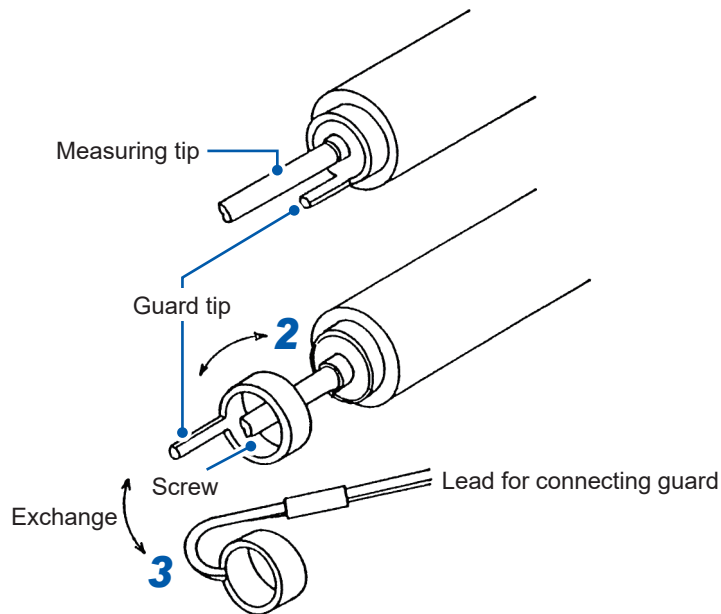
When using with the SM7110

SM7110 Super Megohm Meter



- 1** Connect the L2230 Pin Type Lead (Red) and L2231 Pin Type Lead (Black) to the SM7110 Super Megohm Meter.
- 2** Connect the L2230 to the device's terminal of the value to be calibrated.
- 3** Connect the L2231 to 0 terminal of the device.
- 4** Let the super megohmmeter being in measuring condition, and wait a few minute until the measured value is stable.

When using with the SM-8000 series



- 1** Remove the measuring leads from Rx terminals.
- 2** Take out a guard tip at the tip of red measuring rod as shown in figure by turning it counterclockwise.
- 3** Attach an accessory lead for guard connection (guard tip w/ lead wire) by turning it clockwise.
- 4** Connect the spade tip at the other side of guard tip to the GUARD terminal of this device.
- 5** Connect a black measuring rod to 0 terminal, and a red measuring rod to the terminal of the value to be calibrated.
- 6** Let the super megohmmeter being in measuring condition, and wait a few minute until the indicating needle is stable.

Making Measurements

1 Set the RANGE knob to the range position to be calibrated.

2 Connect the red & black measuring lead to Rx terminal respectively.

With use of an accessory lead for short-circuiting, a respective resistance value can be used in combination.

For example, when 25 M Ω is needed, short-circuit between 0 and 100 M Ω terminals with the lead for short-circuiting, use the terminal of 0 - 50 M Ω .

Specifications

The specifications of this device are as follows:

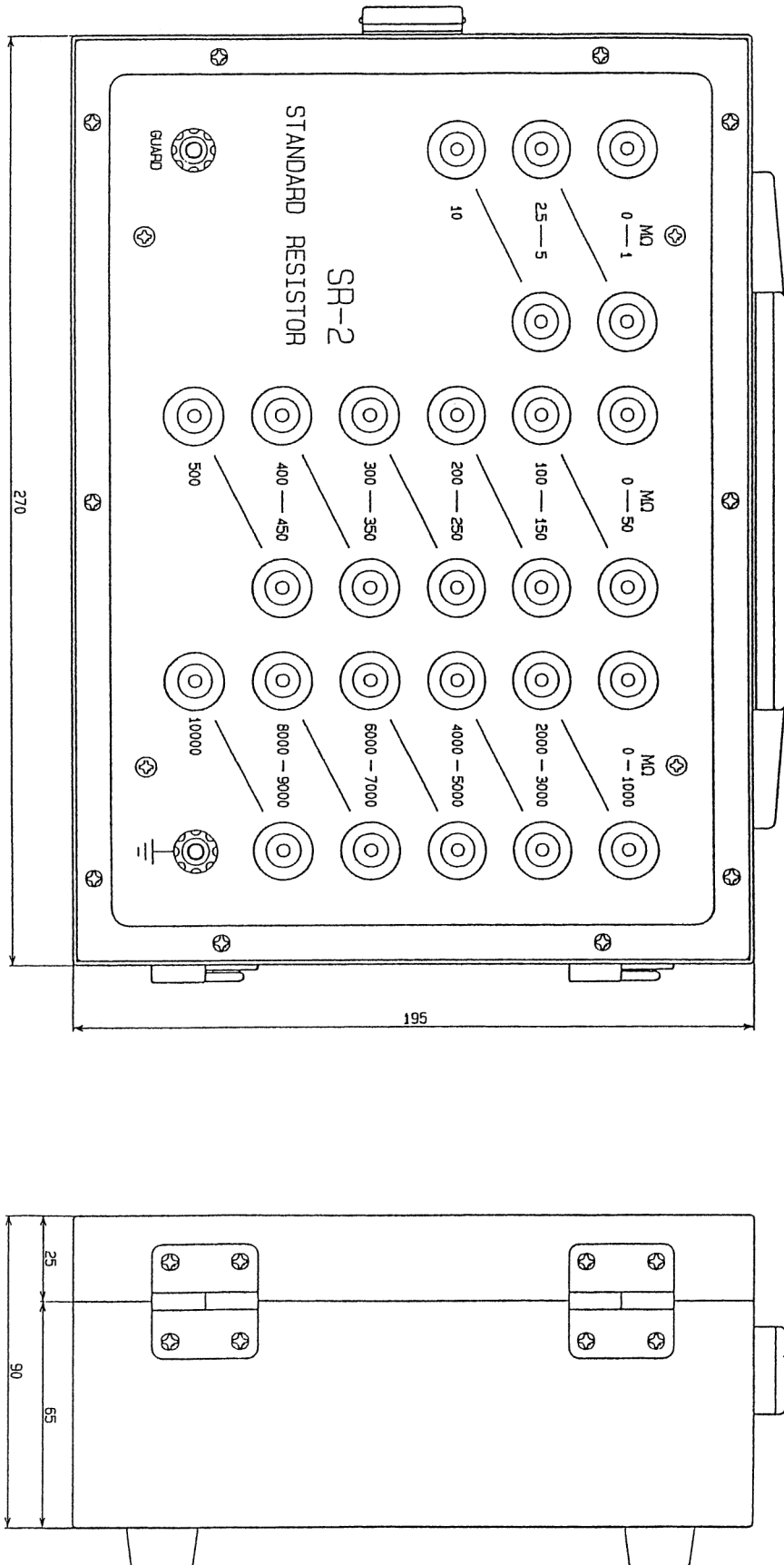
Resistance range	0 - 1 - 2.5 - 5 - 10 M Ω (0 - 10 M Ω internally connected in series) 0 - 50 - 100 - 150 - 200 - 250 - 300 - 350 - 400 - 450 - 500 M Ω (0 - 500 M Ω internally connected in series) 0 - 1000 - 2000 - 3000 - 4000 - 5000 - 6000 - 7000 - 8000 - 9000 - 10000 M Ω (0 - 10000 M Ω internally connected in series)
Accuracy of resistance value	$\pm 2\%$
Maximum applied voltage	1000 V DC
Voltage coefficient	0.0005%/V
Temperature coefficient	200 ppm/ $^{\circ}\text{C}$
Dimensions	Approx. 270W \times 90H \times 195D mm (10.6W \times 3.5H \times 7.7D in.)
Weight	Approx. 2.9 kg (6.4 lbs)
Accessories	Lead for connecting the guard Lead for short-circuiting Instruction Manual (this manual)

Calibration and Maintenance

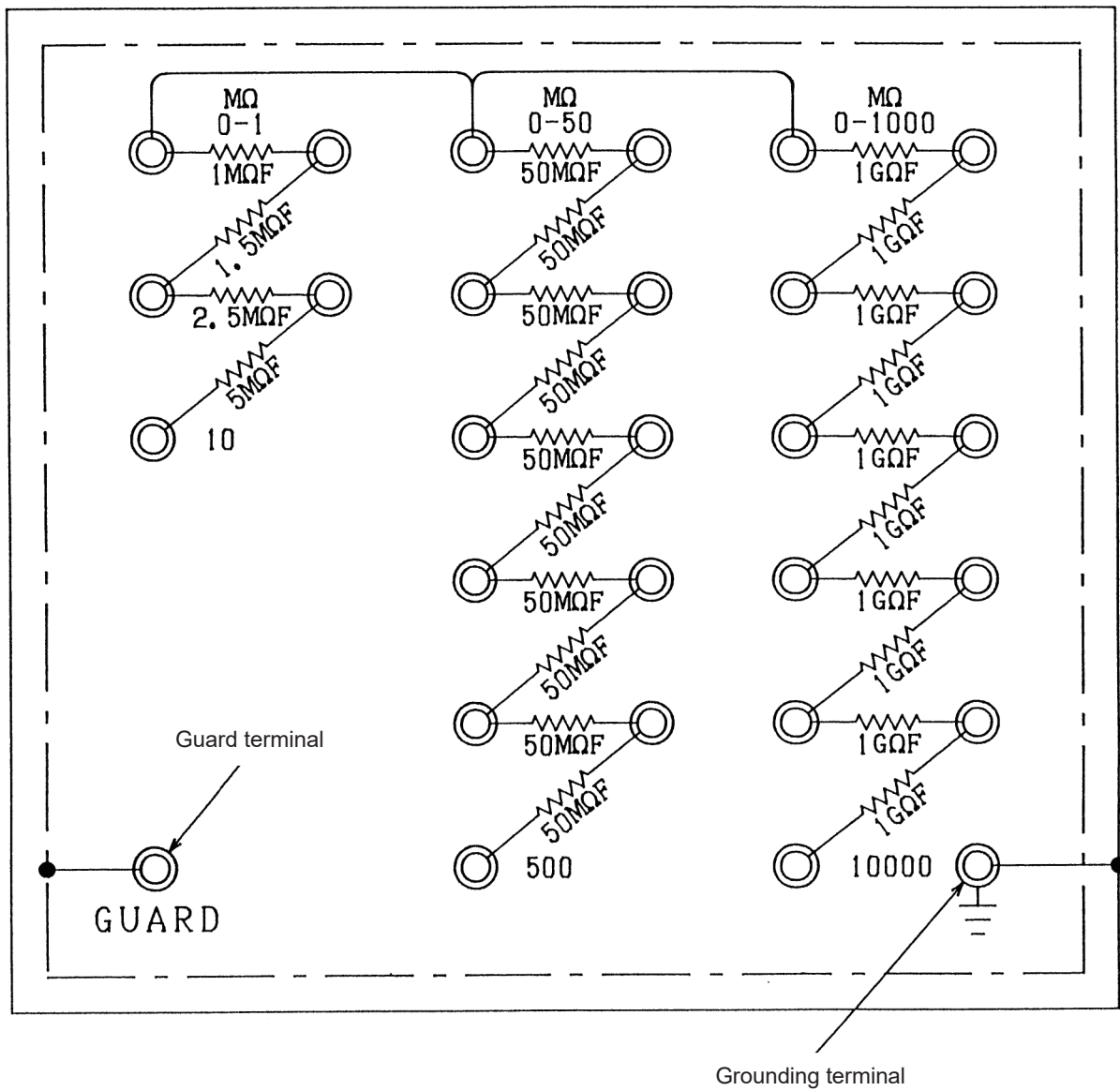
- This device should be calibrated periodically.
- The dust adhered to the panel will cause the error.
- If the device seems to be malfunctioning, contact your authorized Hioki distributor or reseller.

Dimensions

Unit: mm



Internal Circuit



Warranty Certificate

HIOKI

Model	Serial number	Warranty period One (1) year from date of purchase (___ / ___)
-------	---------------	---------------------------------------------------------------------

Customer name: _____

Customer address: _____

Important

- 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 (one [1] year from the date of purchase).
If the date of purchase is unknown, the warranty period is defined as one (1) year from the date (month and year) of manufacture (as indicated by the first four digits of the serial number in YYYY 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:
 - 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:
 - 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:
 - 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.

HIOKI E.E. CORPORATION

<http://www.hioki.com>

18-07 EN-1

HIOKI
www.hioki.com/



**All regional
contact
information**

HIOKI E.E. CORPORATION

81 Koizumi, Ueda, Nagano 386-1192 Japan

2309 EN

Edited and published by HIOKI E.E. CORPORATION

Printed in Japan

- Contents subject to change without notice.
- This document contains copyrighted content.
- It is prohibited to copy, reproduce, or modify the content of this document without permission.
- Company names, product names, etc. mentioned in this document are trademarks or registered trademarks of their respective companies.

Europe only

- EU declaration of conformity can be downloaded from our website.
- Contact in Europe: HIOKI EUROPE GmbH
Helfmann-Park 2, 65760 Eschborn, Germany hioki@hioki.eu