

RM3542, RM3542-01 RESISTANCE HiTESTER

Operation Guide

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Thank you for purchasing the HIOKI RM3542/3542-01 Resistance HiTester. This guide describes basic screen operations and comparator setting procedures. Before using the instrument the first time, please read the operating manual.

Power On/Off

- Unlit: power off (while power is not supplied)
- Red light: power off (while power is supplied)
- Green light: power on

Absolute or relative value

Decision criteria

Measurement decision criteria settings (Comparator function)

REF% Decide by reference value and tolerance (%)

ABS Decide by specified threshold values

Comparator Results (COMP indicator LEDs)

Hi Measured Value is above Upper limit

IN Pass (meets criteria)

Lo Measured Value is below Lower limit

Measurement cable jacks

Select and change display screens and settings

Numerical value entry and related settings

Screen Organization

Measurement Screen

Measurement screen operations are shown on the back of this sheet.

Basic Settings Screen

TRG	Change trigger source (INT/EXT)
RANGE	Change range (100mΩ to 100MΩ)
SPEED	Change measurement speed (FAST/MED/SLOW)
OADJ	Turn zero-adjust on/off
COMP	Turn comparator on/off
LOCK	Enable/disable key lock (OFF/FULL/MENU)

Detailed Settings Screens

(MISC > MEAS F2 > MEAS SETTINGS) Measurement Settings

DELAY1	Adjust the delay from probing to trigger input
DELAY2	Adjust measurement object electrical response
INT(FAST/ MED/ SLOW)	Make fine adjustment to integration time
CONT CHECK	Contact check threshold settings
CONT IMP	Contact Improver function settings
VOLT MONITOR	Voltage level monitor function settings
CURRENT MODE	Current mode setting (CONT/ PULSE)

(MISC > DATA F3 > DATA SETTINGS) Data Settings

AUTO MEMORY	Turn Auto-Memory on/off
STATISTICS	Statistical calculation on/off
DATA OUT	Automatically output measured value

(MISC > SYSTEM F4 > SYSTEM) System Settings

SET MONITOR	Turn two-instrument setting comparison on/off
PROBE CHECK	Turn probe short-circuit detection on/off
RETRY	Retry function on/off
TRIG EDGE	(External I/O) Set trigger rising/falling edge
EOM	(External I/O) Set EOM (end-of-measurement) signal
INTERFACE	Communications interface settings
LOW POWER	Low-power resistance component measurement on/off
JUDGE BEEP	Comparator beeper settings
KEY BEEP	Key beeper on/off
CLOCK(Y-M-D)	Set internal clock
LINE FREQ	Set power source frequency
CONTRAST	Adjust screen contrast
BACKLIGHT	Adjust screen backlight
RESET	Initialize
ADJUST	Instrument Adjustment

Setting Comparator Decision Criteria for Measured Values

Decide According to Reference Value and Tolerance

1 REF% Mode

Setting screen

2 Select item

3 Change numerical value: BACK SPACE / Change sign: +/- / Cancel: ESC

REF 10.5_ Set reference value (example 10.5Ω)

UPP +1.000%
LOW -1.000%

REF 10.50_ Set upper tolerance (example +4.5%)

UPP +4.5_
LOW -1.000%

REF 10.50_ Set lower tolerance (example -4.5%)

UPP +4.500%
LOW -4.500%

When setting the upper tolerance, the lower tolerance is automatically set to its negative equivalent. Change the setting as needed.

4 ENTER

Return to Measurement screen

Decide According to Upper/Lower Thresholds

1 ABS Mode

Setting screen

2 Select item

3 Change numerical value: BACK SPACE / Cancel: ESC

UPP 150_ Set upper thresholds (example 150mΩ)

UPP 150_ mΩ
LOW 0.00 mΩ

UPP 1500_ Set lower thresholds (example 50mΩ)

UPP 1500_ mΩ
LOW 50_ mΩ

4 ENTER

Return to Measurement screen

Measurement Screen Indicators

Zero-adjust (ON)

Trigger Source
INT: Internal trigger
EXT: External trigger

Appears only when OVC is enabled (OVC: Offset Voltage Compensation)

Appears only when the Low-Power Resistance function is enabled

Measurement range: INT 10Ω FAST

Measurement speed: LOADJOVC

Change Settings: MENU (F1)

Tenkey Input Enabled: NUM

Key-Lock State: F.LOCK UNLOCK (F1)

F.LOCK: Changes to settings are disabled
M.LOCK: All except comparator settings are disabled Cancel key-lock (hold 1s)

Remote control: RMT LOCAL (F1)

Enable local control

Measurement Fault (Error) Indicators

+OvrRng Out of Range (over- or under-range)
The measured value is above or below the measurement range, or open device.

-OvrRng

C.E. Hi Contact Check Fault
Indicates possible contact fault or broken cable.

C.E. Lo

C.E. Volt Voltage Level Monitor Fault
Probe contact may be unstable, or electrical noise ingress may be present.

----- No Measurement Data
No measurement value is present immediately after power on or after changing range. Errors with other causes can prevent display of measured values.

PRINT (F2) Prints measured value (Enabled when PRINT is selected as the INTERFACE setting on the SYSTEM screen)

STAT (F3) Displays statistical calculation results (Enabled when ON is selected as the STATISTICS setting on the DATA screen)

NUMBER (F4) Sets the number of measurements for Auto-Memory mode (Enabled when ON is selected as the AUTO MEMORY setting on the DATA screen)

PRINT (F2) Prints statistical data (Enabled when PRINT is selected as the INTERFACE setting on the SYSTEM screen)

UNDO (F3) Deletes the previously stored measurement and calculation result (only the most recent measurement can be deleted)

ALLCLR (F4) Deletes all memories and calculations