

# RM3543, RM3543-01 RESISTANCE HiTESTER

## Operation Guide

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\*600368390\*

Thank you for purchasing the HIOKI RM3543/3543-01 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**

<b>TRG</b>	Change trigger source (INT/EXT)
<b>RANGE</b>	Change range (10mΩ to 1000Ω)
<b>SPEED</b>	Change measurement speed (FAST/MED/SLOW)
<b>OADJ</b>	Turn zero-adjust on/off
<b>COMP</b>	Turn comparator on/off
<b>LOCK</b>	Enable/disable key lock (OFF/FULL/MENU)

**Detailed Settings Screens**

**(MISC > MEAS F2 > MEAS SETTINGS) Measurement Settings**

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

**(MISC > DATA F3 > DATA SETTINGS) Data Settings**

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

**(MISC > SYSTEM F4 > SYSTEM) System Settings**

<b>SET MONITOR</b>	Turn two-instrument setting comparison on/off
<b>PROBE CHECK</b>	Turn probe short-circuit detection on/off
<b>RETRY</b>	Retry function on/off
<b>TRIG EDGE</b>	(External I/O) Set trigger rising/falling edge
<b>EOM</b>	(External I/O) Set EOM (end-of-measurement) signal
<b>INTERFACE</b>	Communications interface settings
<b>100mΩ CURR</b>	100 mΩ range measurement current 100mA/1A
<b>CALIBRATION</b>	Self-calibration operation AUTO/MANU
<b>JUDGE BEEP</b>	Comparator beeper settings
<b>KEY BEEP</b>	Key beeper on/off
<b>CLOCK(Y-M-D)</b>	Set internal clock
<b>LINE FREQ</b>	Set power source frequency
<b>CONTRAST</b>	Adjust screen contrast
<b>BACKLIGHT</b>	Adjust screen backlight
<b>RESET</b>	Initialize
<b>ADJUST</b>	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 10.5mΩ)

UPP +1.000%  
LOW -1.000%

**REF 10500\_mΩ** Set upper tolerance (example +4.5%)

UPP **+4.5\_**  
LOW -1.000%

**REF 10500\_mΩ** Set lower tolerance (example -4.5%)

UPP +4500%  
LOW **-4500%**

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)

LOW 0.000 mΩ

**UPP 15000\_mΩ** Set lower thresholds (example 50mΩ)

LOW **50\_**

**4** ENTER

Return to Measurement screen

### Measurement Screen Indicators

**Zero-adjust (ON)**  
Appears only when OVC is enabled (OVC: Offset Voltage Compensation)

**Trigger Source**  
INT: Internal trigger  
EXT: External trigger

**Measurement range**: INT 10mΩ FAST

**Measurement speed**: OADJ OVC SC

**Change Settings**: F.LOCK UNLOCK (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 (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.

<b>PRINT</b> (F2)	Prints measured value (Enabled when PRINT is selected as the INTERFACE setting on the SYSTEM screen)	<b>PRINT</b> (F2)	Prints statistical data (Enabled when PRINT is selected as the INTERFACE setting on the SYSTEM screen)
<b>STAT</b> (F3)	Displays statistical calculation results (Enabled when ON is selected as the STATISTICS setting on the DATA screen)	<b>UNDO</b> (F3)	Deletes the previously stored measurement and calculation result (only the most recent measurement can be deleted)
<b>NUMBER</b> (F4)	Sets the number of measurements for Auto-Memory mode (Enabled when ON is selected as the AUTO MEMORY setting on the DATA screen)	<b>ALLCLR</b> (F4)	Deletes all memories and calculations