

An Evolution in Stable Measurements

Perfect for Taping Machines and Sorting Machines

NEW RM3542A

Supports Resistance Measurements for
Miniature 008004-size Electronic Parts (0.25 mm × 0.125 mm)



New concept

RM3542A The Evolution is Here

Improved Productivity and Low-impact Measuring



Minimized Variations and Enhanced Measurement Range

RM3542A

A fuller lineup of measurement ranges means that more appropriate ranges and higher resolution testing are now available for your application. The new measurement currents that complement the added ranges ensure detection voltage, improve the S/N ratio and suppress variation.

Achieve Stable Measurements in a Wide Measurement Range
Range added with RM3542A

150 Ω Measurement Comparison

Example of Reduced Variation with the New Range

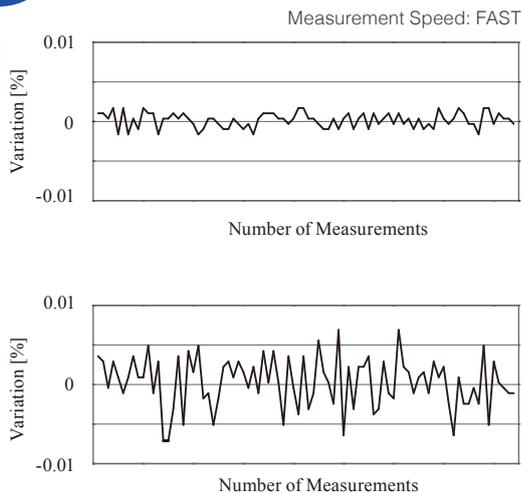
Comparison data with the same sample

| Range | Measurement Current |
|---------|---------------------|
| 100 mΩ | 100 mA |
| 1000 mΩ | 100 mA |
| 3 Ω | 33.3 mA |
| 10 Ω | 10 mA |
| 100 Ω | 10 mA |
| 300 Ω | 3.33 mA |
| 1000 Ω | 1 mA |
| 10 kΩ | 1 mA |
| 30 kΩ | 333 μA |
| 100 kΩ | 100 μA |
| 300 kΩ | 33.3 μA |
| 1000 kΩ | 10 μA |
| 3 MΩ | 3.33 μA |
| 10 MΩ | 1 μA |
| 30 MΩ | 333 nA |
| 100 MΩ | 100 nA |

New concept

300 Ω Range

1000 Ω Range

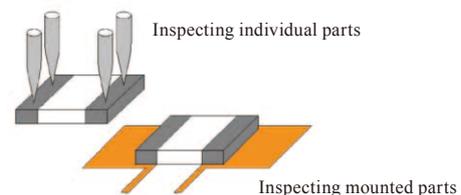


Scaling Function Used to Compensate for Mounted State

New concept

RM3542A

Use the Scaling Function to compensate for the differences in resistance when inspecting individual parts and parts mounted on a board. This function is very useful for inspecting the current detection resistance of low resistors, such as shunts.



Reduce Contact Error Rate and Increase Production Volume



The RM3542A represents an evolution in the Contact Improver Function*1 for low-power measurements. Contact errors are reduced by improved contact between probes and samples.

*1 The Contact Improver Function is described on Page 4.

New concept Low-impact Contact Improvement by Suppressing Rush Current

By suppressing the surge of rush current into samples, there is now a broader range of scenarios in which contact improvement can be used, such as the inspection of small ferrite beads and small 008004-sized(0.25 mm × 0.125 mm) resistors.

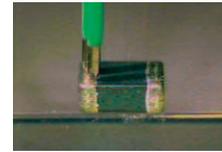
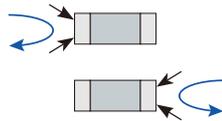


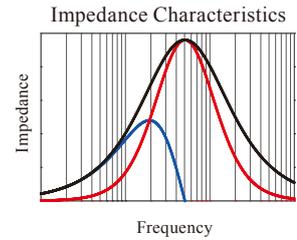
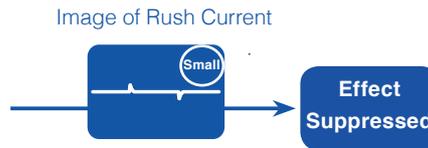
Image of Contact

Contact Improvement by Suppressing Characteristic Changes in Ferrite Beads

RM3542A : Alternating Contact Improvement on the H Side and L Side



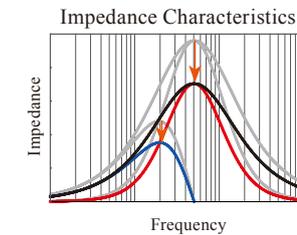
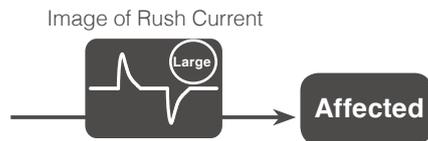
Rush current into samples is reduced.



RM3542 : Simultaneous Contact Improvement on the H Side and L Side



If the probe has poor contact, rush current flows into the sample.



[Low-impact Contact Improvement Conditions] LOW POWER: ON or Applied Voltage Limit Function: ON, and Contact Improver Function set to Pulse.

Low-impact Measurement of Miniature 008004-sized Parts (0.25 mm × 0.125 mm)

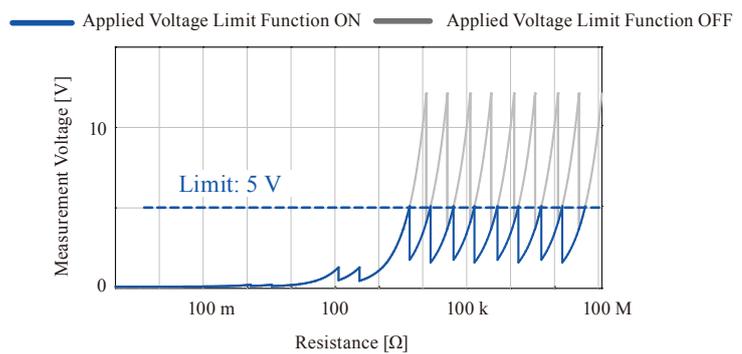


By limiting applied voltage to 5 V or less when measuring, it is possible to measure 008004 size (0.25 mm × 0.125 mm) parts that have a low rated voltage without applying stress.

Applied Voltage Limit Function: OFF

| Object under test | Measurement Current | Applied Voltage |
|-------------------|---------------------|-----------------|
| : | : | : |
| 1 kΩ | 1 mA | 1 V |
| 2 kΩ | | 2 V |
| 3 kΩ | | 3 V |
| 4 kΩ | | 4 V |
| 5 kΩ | | 5 V |
| 6 kΩ | | 6 V |
| 7 kΩ | | 7 V |
| 8 kΩ | | 8 V |
| 9 kΩ | | 9 V |
| 10 kΩ | | 10 V |
| : | : | : |

No Limit



Applied Voltage Limit Function: ON

| Object under test | Measurement Current | Applied Voltage |
|-------------------|---------------------|-----------------|
| : | : | : |
| 1 kΩ | 1 mA | 1 V |
| 2 kΩ | | 2 V |
| 3 kΩ | | 3 V |
| 4 kΩ | | 4 V |
| 5 kΩ | | 5 V |
| 6 kΩ | 333 μA | 2 V |
| 7 kΩ | | 2.3 V |
| 8 kΩ | | 2.6 V |
| 9 kΩ | | 3 V |
| 10 kΩ | | 3.3 V |
| : | | : |

New concept Voltage Limit

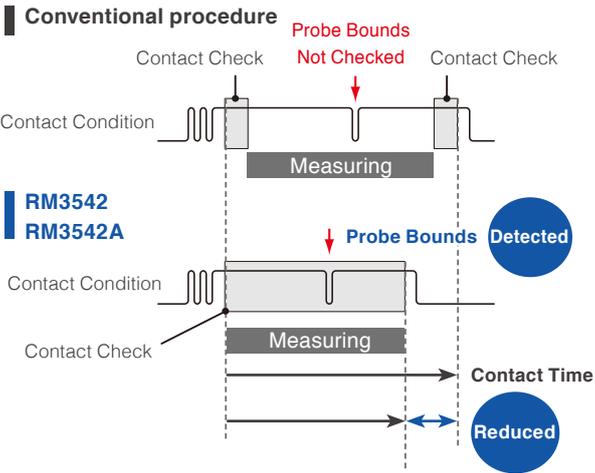
| Measurement Current | Range of Application | |
|---------------------|---------------------------|--------------------------|
| | Applied Voltage Limit OFF | Applied Voltage Limit ON |
| 1 mA | 10 kΩ | 5 kΩ |
| 333 μA | 30 kΩ | 15 kΩ |
| 100 μA | 100 kΩ | 50 kΩ |
| 33.3 μA | 300 kΩ | 150 kΩ |
| 10 μA | 1000 kΩ | 500 kΩ |
| 3.33 μA | 3 MΩ | 1500 kΩ |
| 1 μA | 10 MΩ | 5 MΩ |
| 333 nA | 30 MΩ | 15 MΩ |
| 100 nA | 100 MΩ | 50 MΩ |

Consistent Reliability

Perfect for Automation

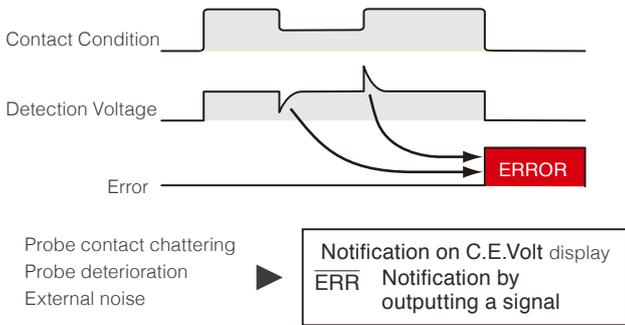
Reliability Improved with Positive Contact Contact Checking while Measuring

Reliable checking and reduced contact time are achieved by performing contact checks while measuring, instead of before and after, as is traditionally done.



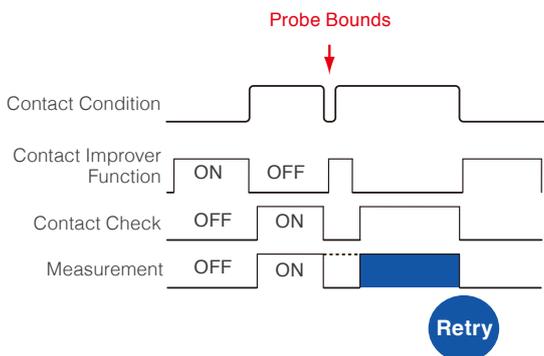
Monitor Contact Condition Detect Contact Errors (Voltage Monitor Function)

Large voltage fluctuations due to changes in current terminal contact resistance or noise from mechanical vibrations are detected as errors.



Reduce Contact Error Rate Repeat Measurement when an Error Occurs (Retry Function)

The Retry Function automatically repeats the measurement when a fault occurs due to probe chatter.



RM3542A

RM3542

Shared Features

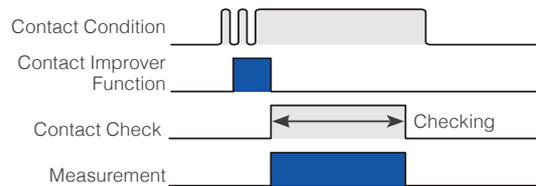
Productivity Improved

Reduce Contact Error Rate Contact Improver Function Ensures Quick and Reliable Contact

Contact is improved by penetrating oxidation and impurities between probes and samples. Measurements stabilized by improving poor contact, and a reduction in the contact error rate, lead to improvements in productivity.



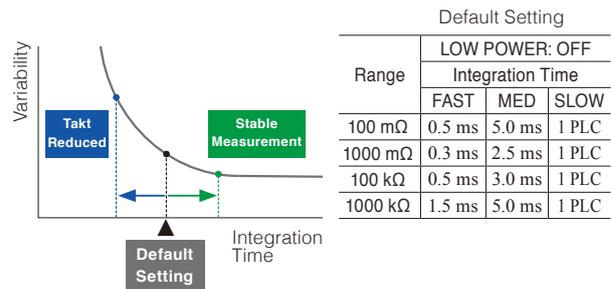
Choices for contact improvement current: 17 mA, 25 mA, 35 mA (default value), 50 mA



Noise Resistant

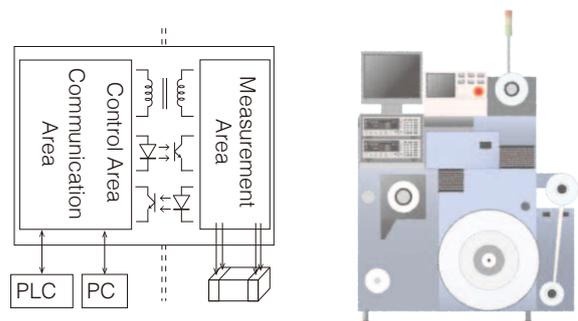
Reduce Measurement Time for More Stable Measurements Integration Time Setting Function

You can set the integration time as desired for each range. Set a short integration time to reduce the takt time, or a long integration time for more stable inspection.



Noise-Resistant Floating Structure

The floating structure of the measurement area minimizes any effects from nearby noise on the measurement values.



Recording, Statistics, Output



Data Storage Function

Saving to Internal Memory via Trigger Signal or Key Operation

All trigger measurement values during external trigger measurement, or trigger input for measurements during internal trigger settings, are saved to internal memory (30000 Max.).

Auto-Memory Function

Auto [Saving] and [Printing] when Measurement Values are Stable

During internal trigger settings, measurement values can be automatically saved to memory when a probe contacts resistance. When the set number (max. 99) is saved to memory the function stops, statistical calculations are performed, and the data is output to the screen or a printer (RS-232C).

Printing Example (NORMAL)

```

7 219.701 Ohm IN
8 220.031 Ohm IN
9 220.687 Ohm IN
10 150.119 Ohm Lo
11 330.065 Ohm Hi
12 OvrRng Hi
13 C.E.Lo --
14 C.E.Hi --
    
```

Printing Example (SAMPLE)

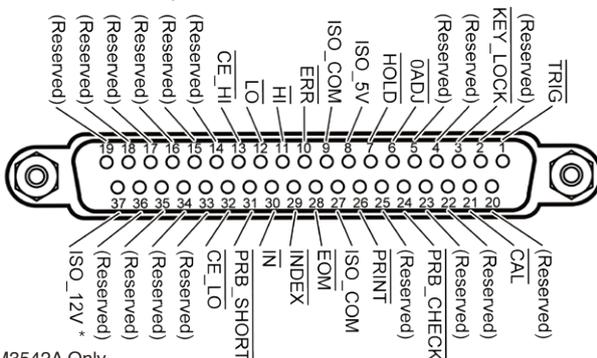
```

-0.136%/IN +0.014%/IN +0.312%/IN
-31.764%/Lo +50.030%/Hi+999.999%/Hi
MEAS.ERR/-- MEAS.ERR/--
    
```

3 sets of data are printed on 1 line to save paper.

External Output

RM3542A Pin Layout



*RM3542A Only

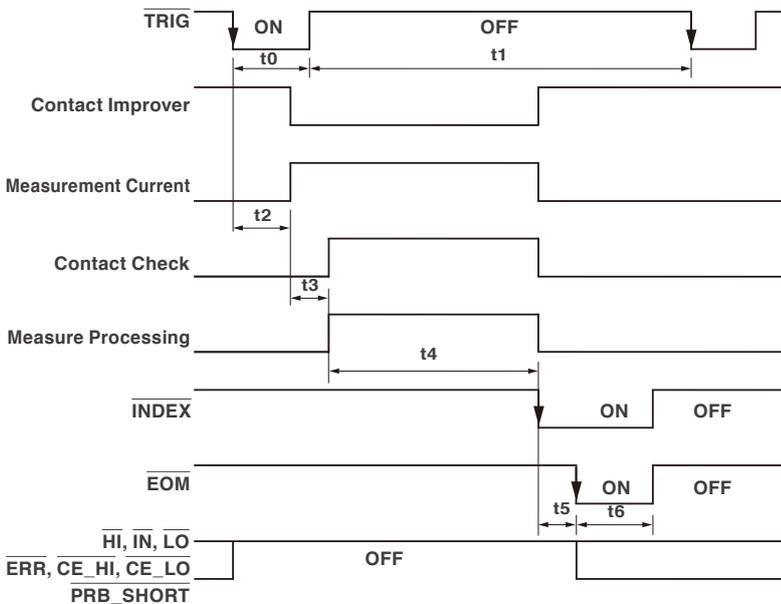
Connector

Connector used : 37-pin D-sub female connector with #4-40 inch screws (on the main unit)
 : DC-37P-ULR (solder type), DCSP-JB37PR (crimped type)
 Compatible connectors Japan Aviation Electronics Industry, Ltd.

Electrical Specifications

| | | |
|-----------------------------|--------------------------|---|
| Input Signals | Input type | Photocoupler isolation: Non-voltage contact inputs (Current sync output supported) (negative logic) |
| | Input ON voltage | 1 V or less |
| | Input OFF voltage | OPEN or 5 V to 30 V |
| | Input ON current | 3 mA/ch |
| | Max. applied voltage | 30 V |
| Output Signals | Output type | Optocoupler-isolated Nch open-drain outputs (Current sync) (negative logic) |
| | Max. load voltage | 30 V |
| | Max. output current | 50 mA/ch |
| | Residual voltage | 1 V (10 mA), 1.5 V (50 mA) |
| Built-in Insulation Power | +5 V power output | |
| | Output voltage | 4.5 V to 5.0 V |
| | Max. output current | 100 mA |
| +12 V power output | | |
| Output voltage | 11.0 V to 13.0 V | |
| Max. output current | 20 mA | |
| External power input | | None |

Example of Typical EXT. I/O Timing



| | | | |
|----|-------------------|-------------------|---|
| t0 | Trigger Pulse ON | 0.1 ms or greater | Rising/Falling edge selection possible |
| t1 | Trigger Pulse OFF | 0.1 ms or greater | |
| t2 | Delay 1 | 0 to 100 ms | According to settings |
| t3 | Delay 2 | 0 to 100 ms | According to settings (0.1 ms or 0.3 ms added when the Contact Improver Function is set to Pulse) |
| t4 | Measurement Time | 0.1 ms to 100 ms | According to sampling speed, OVC settings, measurement range and power supply frequency |
| t5 | Calculation Time | 0.1 ms | Delayed when statistical calculation and the memory function are ON. |
| t6 | EOM Pulse Width | 1 to 100 ms | According to settings |

EXT.I/O Signal List

Input Signals

| | |
|-----------|-------------------------------|
| TRIG | External Trigger |
| OADJ | Zero-Adjust |
| PRINT | Printing |
| CAL | Self-Calibration |
| HOLD | Hold |
| PRB_CHECK | Probe Short-Circuit Detection |
| KEY_LOCK | Key Lock |

Output Signals

| | |
|------------|--|
| ERR | Measurement Fault Output |
| CE_HI | Contact error (H _{CUR} , H _{POT} side) |
| CE_LO | Contact error (L _{CUR} , L _{POT} side) |
| PRB_SHORT | Probe short-circuit error |
| INDEX | End of Import |
| EOM | End of Measurement |
| HI, IN, LO | Comparator judgment |
| ISO_5V | Isolated power +5 V output |
| ISO_12V | Isolated power +12 V output |
| ISO_COM | Isolated power common |

Requirement Specification (Printer)

| | | | | |
|---------------------|-------------|----------------------------|-------------|-----|
| Interface | RS-232C | RM3542 Main unit connector | 1 2 3 4 5 | |
| Characters per line | At least 45 | | 6 7 8 9 | |
| Communication speed | 9600 bps | Function | Signal Name | Pin |
| Data bits | 8 bit | Receive Data | R x D | 2 |
| Parity | None | Transmit Data | T x D | 3 |
| Stop bits | 1 bit | Signal Ground | GND | 5 |
| Flow control | None | | | |

General Specifications

| | |
|--|---|
| Operating environment | Indoors, pollution degree 2, altitude up to 2000 m (6562 ft) |
| Operating temperature and humidity | 0°C to 40°C (32°F to 104°F), 80% RH or less(no condensation) |
| Storage temperature and humidity | -10°C to 50°C (14°F to 122°F), 80% RH or less(no condensation) |
| Power supply/Maximum rated power consumption | 100 V to 240 V AC (50 Hz/60 Hz)/30 VA |
| Dielectric strength | 1.62 kV AC, 1 minute Between all mains supply terminals and protective ground, interfaces, and measurement jacks |
| Compliance standard | EMC: EN61326, EN61000 Safety: EN61010 |
| Dimensions/mass | Approx. 260 mm (10.24 in) W × 88 mm (3.46 in) H × 300 mm (11.81 in) D, Approx. 2.9 kg (102.3 oz) |
| Accessories | Power cord × 1, Instruction manual × 1, Operation guide × 1 EXT.I/O male connector × 1 |

Measurement Method

| | |
|-----------------------|---------------------------------|
| Measurement types | DC resistance |
| Measurement signal | Constant current |
| Measurement method | Four-terminal DC |
| Measurement terminals | 22 mm pitch BNC female terminal |
| Measurement speed | FAST/MED/SLOW |

Comparator Function

(Determination method: REF% Mode/ABS Mode)

| | |
|-------------------|--|
| Measurement range | REF% (Relative Value Determination) Mode <ul style="list-style-type: none"> Reference value: Setting range 0.00 mΩ to 120.00 MΩ (LOW POWER: OFF) 0.0 mΩ to 1200.0 Ω (LOW POWER: ON) <ul style="list-style-type: none"> Upper/Lower limit value: Setting range -9.999% to 9.999% (when less than 10%) -99.99% to 99.99% (when 10% or greater) |
| | ABS (Absolute Value Determination) Mode <ul style="list-style-type: none"> Upper/Lower limit value: Setting range 0.00 mΩ to 120.00 MΩ (LOW POWER: OFF) 0.0 mΩ to 1200.0 Ω (LOW POWER: ON) |
| Judgment | COMP lamp (Hi/IN/Lo), external output, beeping sound: IN, HI/LO, LOW, HIGH (default setting OFF) |

Contact Check Function

| | |
|-----------------------|---|
| Operation details | Checks the connections between the H _{POT} -H _{CUR} terminals and between the L _{POT} -L _{CUR} terminals (for each range) |
| Threshold value | 50 Ω/ 100 Ω/ 150 Ω/ 200 Ω (default value)/ 300 Ω/ 400 Ω/ 500 Ω |
| Judgment | Error display (CE_HI/CE_LO), external output |
| Implementation timing | Before integration time (response time) until measuring is in progress |

Trigger/Delay Function

| | |
|------------------|---|
| Trigger (Select) | Internal trigger (automatic continuous measurement) External trigger (measurements are triggered by an external signal) |
| Delay | DELAY 1: Common to all ranges Mechanical adjustment of stable time during probe contact Measurement range: 0.0 ms to 100.0 ms |
| | DELAY 2: Each range Adjustment of time from the application of a measurement current (such as an inductor) until the value is stable |
| | Measurement range: 0.0 ms to 100.0 ms |

Measurement Time: Power supply frequency 50 Hz (60 Hz), default settings

Color: RM3542A only

Tolerance: ±10% ±0.2 ms

| Range | LOW POWER: OFF | | |
|---------|----------------|---------------|---------------|
| | FAST | MED | SLOW |
| 100 mΩ | 3.8 ms | 13 ms | 43 ms (36 ms) |
| 1000 mΩ | 2.0 ms | 6.4 ms | 41 ms (35 ms) |
| 3 Ω | 1.6 ms | 6.0 ms | 41 ms (34 ms) |
| 10 Ω | 1.6 ms | 6.0 ms | 41 ms (34 ms) |
| 100 Ω | 0.9 ms | 3.6 ms | 21 ms (17 ms) |
| 300 Ω | 0.9 ms | 3.6 ms | 21 ms (17 ms) |
| 1000 Ω | 0.9 ms | 3.6 ms | 21 ms (17 ms) |
| 10 kΩ | 1.0 ms | 3.6 ms | 21 ms (17 ms) |
| 30 kΩ | 0.9 ms | 3.6 ms | 21 ms (17 ms) |
| 100 kΩ | 1.3 ms | 3.8 ms | 21 ms (18 ms) |
| 300 kΩ | 1.3 ms | 3.8 ms | 21 ms (18 ms) |
| 1000 kΩ | 2.5 ms | 6.0 ms | 21 ms (18 ms) |
| 3 MΩ | 2.5 ms | 6.0 ms | 21 ms (18 ms) |
| 10 MΩ | 5.3 ms | 23 ms (20 ms) | 23 ms (20 ms) |
| 30 MΩ | 5.8 ms | 23 ms (20 ms) | 23 ms (20 ms) |
| 100 MΩ | 26 ms (22 ms) | 46 ms (39 ms) | 86 ms (72 ms) |

| Range | LOW POWER: ON | | |
|---------|---------------|--------|---------------|
| | FAST | MED | SLOW |
| 1000 mΩ | 2.3 ms* | 12 ms | 42 ms (35 ms) |
| 3 Ω | 2.3 ms | 12 ms | 42 ms (35 ms) |
| 10 Ω | 2.3 ms* | 12 ms | 42 ms (35 ms) |
| 100 Ω | 1.7 ms | 6.1 ms | 41 ms (34 ms) |
| 300 Ω | 3.2 ms | 7.6 ms | 36 ms (43 ms) |
| 1000 Ω | 7.2 ms | 12 ms | 47 ms (40 ms) |

* Add 0.2ms when using the RM3542

OVC Function (Offset Voltage Compensation)

| | |
|-------------------|---|
| Operation details | Inverts current polarity to remove offset caused by thermal EMF |
| Effective range | LOW POWER OFF: 100 mΩ range to 10 Ω range LOW POWER ON: All ranges |

Recording/Interface

| | |
|----------------------|--|
| Memory storage | Measurement values are recorded by the EXT.I/O TRIG signal and F4 [MANU] button. |
| | Number of memory slots: 30000 (volatile memory, no backup) |
| Auto-Memory Function | Statistical Calculation Functions: Statistical calculations are performed for measurement values saved to memory. (Calculation contents: Total data count, average value, minimum value, maximum value, sample standard deviation, population standard deviation, process capability index) Calculation results: Displayed on screen/printed |
| | Loading when measured value is stable, with manual measurement by internal continuous trigger (A beeping sound is heard if the specified value is reached.) Memory slots: 1 to 99 |
| Interface | EXT.I/O, RS-232C, Printer, Settings Monitor Function terminals (SET MONITOR terminals), GP-IB (RM3542-51, RM3542-01 only) |

RS-232C

| | |
|-------------------|--------------------------------|
| Connector | D-sub 9-pin connector |
| Flow control | None |
| Transmission rate | 9600 bps, 19200 bps, 38400 bps |

GP-IB (RM3542-01 and RM3542-51 only)

| | |
|---------------------|----------------------------------|
| Connector | 24-pin Centronics type connector |
| Compliance standard | IEEE-488.1 1987 |
| Reference standard | IEEE-488.2 1987 |
| Terminator | LF, CR+LF |

Measurement Specifications Color: RM3542A only

Resistance measurement accuracy Accuracy guaranteed for 1 year, Post-adjustment accuracy guaranteed for 1 year

Conditions of guaranteed accuracy

Warm-up time 30 minutes or more

Integration time Longer than the default value for the Integration Time Setting Function
(No regulation for settings in ms if the default value is set to PLC)

Temperature and humidity range for guaranteed accuracy 23°C ±5°C (73°F ±9°F), 80% RH or less

Temperature fluctuation after self-calibration must be within ±2°C (±3.6°F). Add Temperature Coefficient ±(1/10 of measurement accuracy)/°C for the following ranges: 0°C to 18°C (32°F to 64°F) and 28°C to 40°C (82°F to 104°F).

LOW POWER: OFF

| Range | Maximum Display Value ¹ | Resolution | Measurement Accuracy: ± (%rdg. + % f.s.) | | | Measurement Current ² | Open-Circuit Voltage |
|---------|------------------------------------|------------|--|---------------|---------------|----------------------------------|------------------------|
| | | | FAST | MED | SLOW | | |
| 100 mΩ | 120.0000 mΩ | 100 nΩ | 0.015 + 0.008 | 0.015 + 0.003 | 0.015 + 0.002 | 100 mA | 20 V max *3, *4, *5 |
| 1000 mΩ | 1200.000 mΩ | 1 μΩ | 0.012 + 0.003 | 0.012 + 0.002 | 0.012 + 0.001 | 100 mA | |
| 3 Ω | 3.60000 Ω | 10 μΩ | 0.012 + 0.003 | 0.012 + 0.002 | 0.012 + 0.001 | 33.3 mA | |
| 10 Ω | 12.00000 Ω | 10 μΩ | 0.010 + 0.003 | 0.008 + 0.002 | 0.008 + 0.001 | 10 mA | |
| 100 Ω | 120.0000 Ω | 100 μΩ | 0.009 + 0.003 | 0.007 + 0.002 | 0.007 + 0.001 | 10 mA | |
| 300 Ω | 360.000 Ω | 1 mΩ | 0.009 + 0.003 | 0.007 + 0.002 | 0.007 + 0.001 | 3.33 mA | |
| 1000 Ω | 1200.000 Ω | 1 mΩ | 0.008 + 0.003 | 0.006 + 0.002 | 0.006 + 0.001 | 1 mA | |
| 10 kΩ | 12.00000 kΩ | 10 mΩ | 0.009 + 0.003 | 0.007 + 0.002 | 0.007 + 0.001 | 1 mA | |
| 30 kΩ | 36.0000 kΩ | 100 mΩ | 0.009 + 0.003 | 0.007 + 0.002 | 0.007 + 0.001 | 333 μA | |
| 100 kΩ | 120.0000 kΩ | 100 mΩ | 0.010 + 0.003 | 0.007 + 0.002 | 0.007 + 0.001 | 100 μA | |
| 300 kΩ | 360.000 kΩ | 1 Ω | 0.010 + 0.003 | 0.007 + 0.002 | 0.007 + 0.001 | 33.3 μA | |
| 1000 kΩ | 1200.000 kΩ | 1 Ω | 0.010 + 0.003 | 0.008 + 0.002 | 0.008 + 0.001 | 10 μA | |
| 3 MΩ | 3.60000 MΩ | 10 Ω | 0.010 + 0.003 | 0.008 + 0.002 | 0.008 + 0.001 | 3.33 μA | |
| 10 MΩ | 12.00000 MΩ | 10 Ω | | 0.030 + 0.004 | | 1 μA | |
| 30 MΩ | 36.0000 MΩ | 100 Ω | | 0.030 + 0.010 | | 333 nA | |
| 100 MΩ | 120.0000 MΩ | 100 Ω | | 0.100 + 0.020 | | 100 nA | |

LOW POWER: ON

| Range | Maximum Display Value ¹ | Resolution | Measurement Accuracy: ± (%rdg. + % f.s.) | | | Measurement Current ² | Open-Circuit Voltage |
|---------|------------------------------------|------------|--|---------------|---------------|----------------------------------|---------------------------------|
| | | | FAST | MED | SLOW | | |
| 1000 mΩ | 1200.000 mΩ | 1 μΩ | 0.010 + 0.008 | 0.008 + 0.003 | 0.008 + 0.002 | 10 mA | 10 V max (RM3542A) *3, *5 |
| 3 Ω | 3.60000 Ω | 10 μΩ | 0.010 + 0.008 | 0.008 + 0.003 | 0.008 + 0.002 | 3.33 mA | |
| 10 Ω | 12.00000 Ω | 10 μΩ | 0.010 + 0.008 | 0.008 + 0.003 | 0.008 + 0.002 | 1 mA | 20 V max (RM3542) *3, *5 |
| 100 Ω | 120.0000 Ω | 100 μΩ | 0.010 + 0.003 | 0.008 + 0.002 | 0.008 + 0.001 | 1 mA | |
| 300 Ω | 360.000 Ω | 1 mΩ | 0.010 + 0.003 | 0.008 + 0.002 | 0.008 + 0.001 | 333 μA | |
| 1000 Ω | 1200.000 Ω | 1 mΩ | 0.020 + 0.003 | 0.008 + 0.002 | 0.008 + 0.001 | 100 μA | |

¹Negative values can be up to 10% of positive full scale.

²Measurement current accuracy is ±5%.

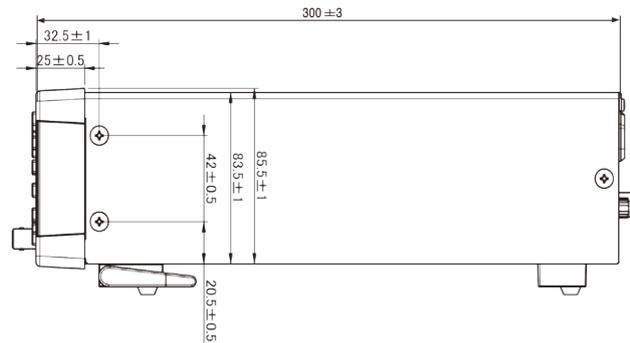
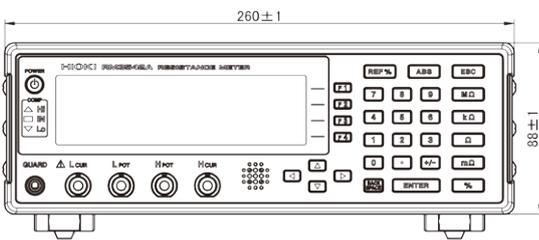
³Voltage when not measuring is 20 mV or less, with current mode set at PULSE and Contact Improver Setting set at OFF/PULSE (with a voltmeter having 10 MΩ).

⁴VOLTAGE LIMIT ON: 10 V max

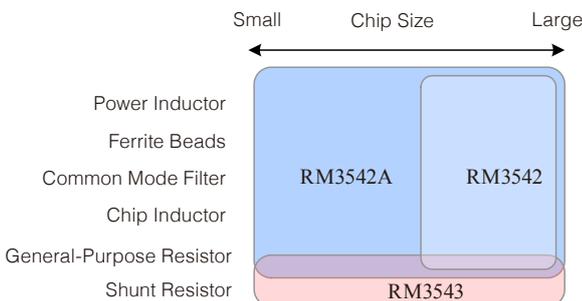
⁵With the sum of resistances of the probes, sample, and contacts less than (open-circuit voltage) / (measurement current).

Example. 100 mA measurement current can be used when the sum of resistances of the probes, sample, and contacts is no more than 20 Ω.

Dimensions (Units: mm)



Recommended Model for Each Type of Measurement



Related Products

Resistance Meter for the Ultra-Low Shunt Era RM3543



- Inspection of 0.1 mΩ at a high accuracy of 0.16%, and a high resolution of 0.01 μΩ. Shunt resistor load inspection with superior accuracy and resolution.
 - Excellent repetitive measurement accuracy
 - Intuitive user interface and superb noise immunity ideal for use with automated equipment
- RM3543
RM3543-01 (With GP-IB)

Product Name: RESISTANCE METER RM3542A

| Model No. (Order Code) | GP-IB |
|------------------------|----------|
| RM3542-50 | — |
| RM3542-51 | Included |

Product Name: RESISTANCE METER RM3542

| Model Name (Order code) | GP-IB |
|-------------------------|----------|
| RM3542 | — |
| RM3542-01 | Included |

Options

Probes and Fixtures (for connection to measurement terminals)



FOUR-TERMINAL PROBE 9140-10
(for RM3542A)
FOUR-TERMINAL PROBE 9140
(for RM3542)

For test lead parts
Diameter of supported measurement terminals: 0.3 to 5 mm (0.01 to 0.20 in)
Cable length: 1 m (3.28 ft)



TEST FIXTURE 9262

For test lead parts
Diameter of supported measurement terminals: 0.3 to 2 mm (0.01 to 0.08 in)
Pitch of test lead: 5 mm (0.20 in) or greater
Connects directly to main unit



SMD TEST FIXTURE 9263

For SMD with electrodes on the sides
Supported sample sizes:
2012 to 5750 (JIS)
0805 to 2220 (EIA)
Sample width: 1 to 10 mm (0.04 to 0.39 in)
Connects directly to main unit



World's First Highly Accurate 4-Terminal Measurement

SMD TEST FIXTURE IM9100

For SMD with electrodes on the bottom
Supported sample sizes:
0402 to 1005 (JIS)
01005 to 0402 (EIA)
Connects directly to main unit

See the product catalogs for details.

Recommended Measurement Cable Specifications

| | |
|-------------------------------|--|
| Conductor resistance | 500 mΩ/m or less |
| Capacitance | 150 pF/m or less |
| Cable dielectric material | Polyethylene (PE), Teflon* (TFE), Polyethylene Foam (PEF) Insulation resistance: 10 GΩ or greater |
| Connector insulator material | Teflon* (TFE), Polybutylene Terephthalate (PBT) Insulation resistance: 10 GΩ or greater |
| Length | 2 m (6.56 ft) or less |
| Recommended cables (examples) | JIS Standard 3C-2V, 1.5D-2V, MIL Standard RG-58A/U |

*Teflon is a registered trademark of DUPONT, Inc.

Communication Interfaces

RS-232C CABLE 9637



9pin-9pin, cross
Cord length: 1.8 m (5.91 ft)

GP-IB CONNECTION CABLE 9151-02



Cord length: 2 m (6.56 ft)

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