



*Renewed 3532-50 further shortens line tact time with its high-speed measuring power*

## High measurement speed of 5 ms with 4 times as many functions as current models.

### ■ General Description

With variable frequency measurements from 42 Hz to 5 MHz, the highly acclaimed 3532 LCR HiTESTER has been renewed with the power for maximum high speed measurements of 5 ms (4 times that of current models). This means that line tact times can be further shortened, promising you increased line efficiency. Now, with a comparator function for displaying deviations of Δ%.

### ■ Features

- Measuring Speed (Representative Values):  
FAST mode: 5 ms  
NORMAL Mode: 21 ms  
SLOW 1/2 Mode: 72 ms/140 ms
- Comparator Function: Up to 30 types of measurement settings can be placed in memory: Upper and lower value settings (Hi, IN, Lo) for two measurement parameters, % settings, Δ% settings or absolute value settings
- Measuring Frequency:  
Variable from 42 Hz to 5 MHz
- Basic Accuracy:  
Highly accurate measurements of ±0.08%
- Enlarged display function for easy observation in production line where the unit is read at a distance.
- PC controllable via RS-232C interface (optional)
- Optional printer allows output of measurement values and comparator results



The applications and LabVIEW driver necessary to save measurement data as Microsoft Excel or CVS files via the RS-232C interface can be downloaded from the HIOKI Web site.

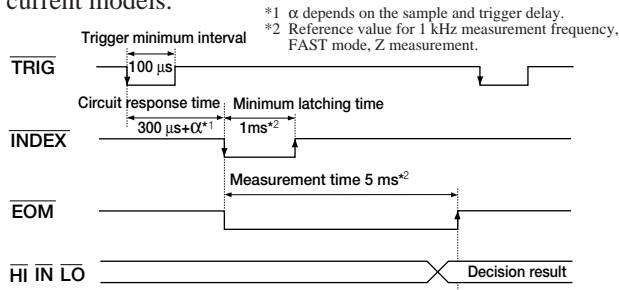
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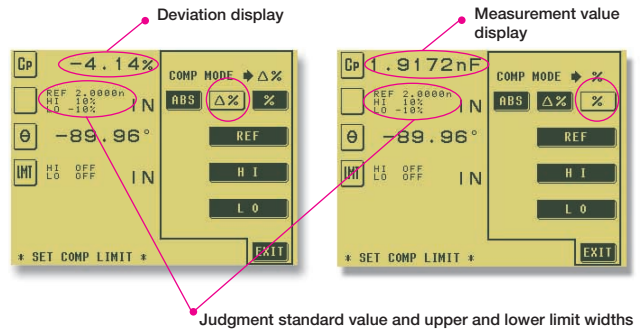
## Faster timing sequence reduces tact time

The renewed 3532-50 builds sequences using the signals of the triggers (TRIG), analog measurement completion (INDEX) and end-of-measurement (EOM) that are the same as current models to extract the comparator results under the following timing.

Line tact times can be even further shortened, with its 5 ms measuring speed (when in FAST mode) from measuring start to finish, which is 4 times the speed of current models.



## Comparator setting screen with additional $\Delta\%$ display



The screen at left shows an example of the  $\Delta\%$  setting; The screen at right shows an example of the % setting from current models. In either, the judgement range is a percentage of the reference values. The  $\Delta\%$  display is easy to interpret because the measurement value is displayed as a deviation.

## 3532 specifications

Measurement parameters	$ Z ,  Y , \theta, R_p, R_s \text{ (ESR)}, G, X, B, C_p, C_s, L_p, L_s, D \text{ (tan } \delta), Q$
Measurement ranges $ Z , R, X$	10.00 m $\Omega$ to 200.00 M $\Omega$ (depending on measurement frequency and signal levels)
$\theta$	-180.00° to +180.00°
C	0.3200 pF to 370.00 mF
L	16.000 nH to 750.00 kH
D	0.00001 to 9.99999
Q	0.01 to 999.99
$ Y , G, B$	5.0000 nS to 99.999 S
Basic accuracy	Z: $\pm 0.08\%$ rdg. $\theta: \pm 0.05^\circ$
Measurement frequency	42 Hz to 5 MHz
Measurement signal levels	10 mV to 5 V rms 10 $\mu$ A to 100 mA rms
Output impedance	50 $\Omega$
Display screen	LCD with backlight / 99999 (full 5 digits)
Measurement time (typical values for displaying $ Z $ )	FAST: 5 ms, NORMAL: 21 ms, SLOW 1 / 2: 72 ms / 140 ms
Settings in memory	Maximum 30 sets
Comparator functions	HI/IN/LO settings for two measurement parameters; percentage, $\Delta\%$ , or absolute value settings
DC bias	External DC bias $\pm 40$ V max. (option)
External printer	9442 PRINTER (option)
External interfaces	GP-IB or RS-232C (selectable options), external I/O for sequencer use
Power source	100, 120, 220 or 240 V( $\pm 10\%$ ) AC (selectable), 50/60 Hz
Maximum rated power	50 VA approx.

**Measurement:** All parameter ranges are determined by the  $|Z|$  range. 100 m $\Omega$ , 1  $\Omega$ , 10  $\Omega$ , 100  $\Omega$ , 1 k $\Omega$ , 10 k $\Omega$ , 100 k $\Omega$ , 1 M $\Omega$ , 10 M $\Omega$ , 100 M $\Omega$

**Measurement frequency:** 42 Hz to 5 MHz ( $\pm 0.005\%$ )  
Up to 1 kHz (0.1 Hz steps); 1 kHz to 10 kHz (1 Hz); 10 kHz to 100 kHz (10 Hz); 100 kHz to 1 MHz (100 Hz); 1 MHz to 5 MHz (1 kHz)

**Measurement levels:**

**[Voltage and constant voltage]**

10 mV to 5 V rms (DC to 1 MHz)  
50 mV to 1 V rms (1 MHz to 5 MHz)  
Maximum short-circuit current 100 mA rms  
1 mV steps

**[Constant current]**

10  $\mu$ A to 100 mA rms (DC to 1 MHz)  
50  $\mu$ A to 20 mA rms (1 MHz to 5 MHz)  
Maximum voltage 5 V rms  
10  $\mu$ A rms steps

**Dimensions and mass:**

113W  $\times$  347H  $\times$  270D mm; 5.7 kg approx.  
(4.45"  $\times$  13.66"  $\times$  10.63" D; 201.41 oz. approx.)

**Conforming standards:**

EMC EN61326-1:1997+A1:1998  
EN61000-3-2:1995+A1:1998+A2:1998  
EN61000-3-3:1995

Safety EN61010-1:1993+A2:1995

**Power supply unit:**

Pollution degree 2, Overvoltage category II  
(Anticipated transition over-voltage: 2.5 kV)

**Measurement terminals:**

Pollution degree 2, Overvoltage category I  
(Anticipated transition over-voltage: 330 V)

## 3532-50 LCR HiTESTER

(Standard accessories: power cord, spare power fuse (1 A for 100/120 V rating, 0.5 A for 220/240 V rating))

Test fixtures are not supplied with the unit.  
Select an optional test fixture when ordering.  
Refer to the Parts Catalog for details.

## Main optional accessories

9140 FOUR-TERMINAL PROBE

9143 PINCHER PROBE

9261 TEST FIXTURE

9262 TEST FIXTURE (direct connection type)

9263 SMD TEST FIXTURE

(direct connection type)

9593-01 RS-232C INTERFACE

9518-01 GP-IB INTERFACE

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