HIOKI

BATTERY HiTESTER BT3564

Maximum input voltage 1000V



High Voltage Battery Tester for EV and PHEV

- DC voltage measurement up to 1000 V
- 0.1μΩ to 3kΩ internal resistance range
  (Pack total resistance, bus bar resistance)
- Built-in spark discharge reduction function
- Analog output function
- Probe supports 1000 V and high voltage battery packs (option)



CE 3year Warranty

Maximum input voltage 1000V For shipping and receiving inspections of battery packs with increasingly higher voltages

The BT3564 simultaneously measures both internal resistance and battery voltage with an input voltage of up to 1000 V. This battery tester is perfect for shipping and receiving inspections of battery packs ranging from increasingly higher voltage EV and PHEV batteries to home storage batteries.



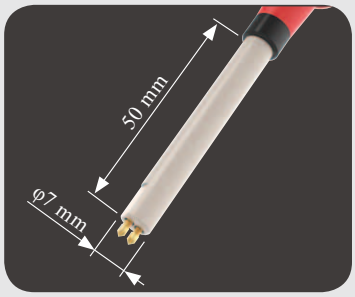
High Precision	**Resistance : ±0.5%rdg. ±5dgt.** **Voltage : ±0.01%rdg. ±3dgt.**
High Resolution	**Resistance : 0.1 μΩ** (3 mΩ range) **Voltage : 10 μV** (10 V range)

EV/PHEV high voltage battery pack

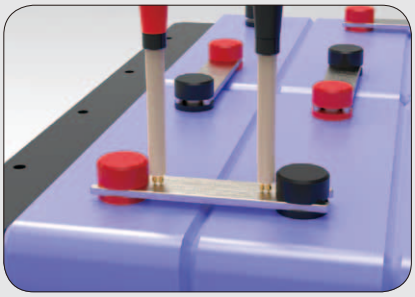
Safely and smoothly measure high voltage battery packs with the 1000 V probe* *Exclusive option



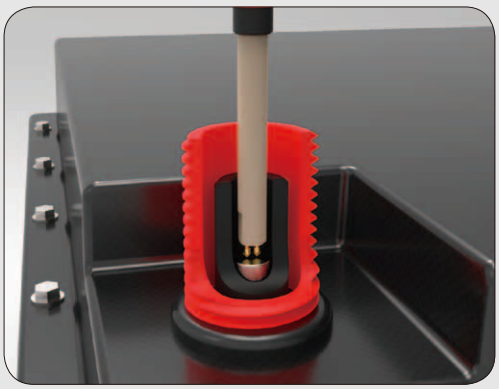
Measurement lead with long tip



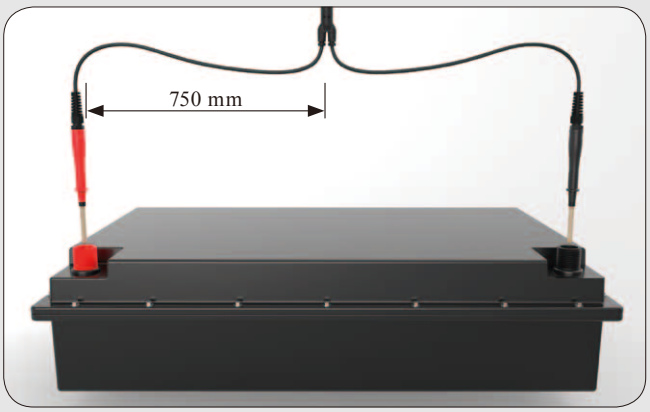
Tip length: 50 mm (1.97 in), Diameter: 7 mm (0.28 in)



Safely measure the resistance of high voltage bus bars



Measure deep-set terminals with the long tip
(Figure: terminal cross-section)

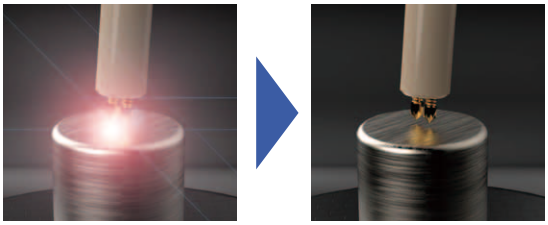


Easily measure terminals that are far apart thanks to the long lead

Functions for Reliable, Easy Measurement

Built-in spark discharge reduction function

Spark discharges become more likely with measurements of higher voltages.The BT3564 limits the current that flows when contacting battery packs, thus reducing spark discharges.
Furthermore, the contact check function automatically switches to measurement mode as soon as it confirms contact between the probe and the battery pack terminal.



Analog output function

Complete with a built-in resistance value analog output function. Combine it with a recorder or logger for total resistance value monitoring such as extended vibration testing or battery evaluation, and monitoring resistance changes due to temperature, humidity, or other environmental changes.

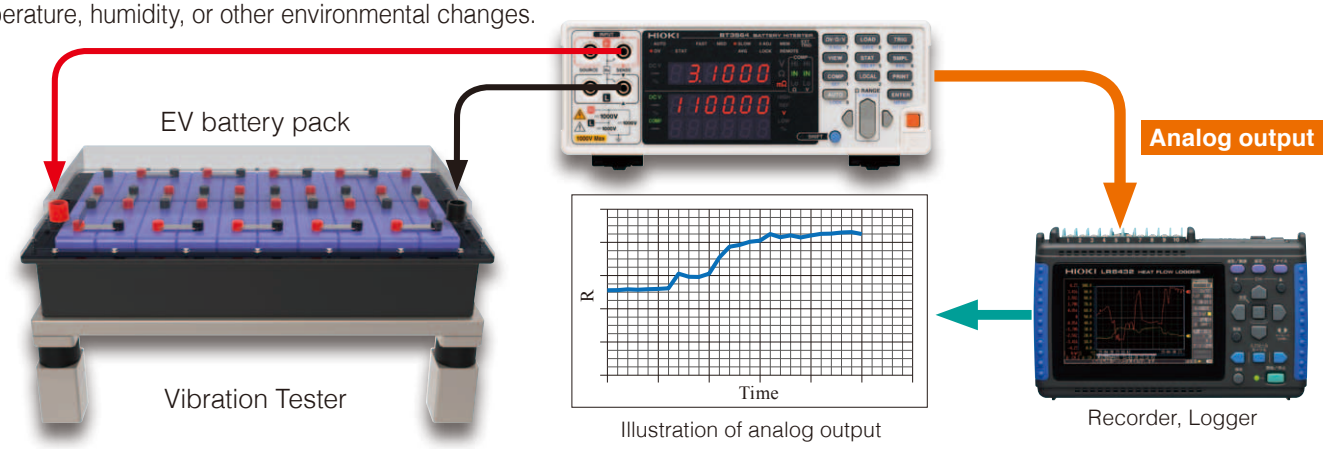


Illustration of analog output

Four-terminal AC method

Resistance measurement uses the 1 kHz AC 4 terminal method for measurement unaffected by wiring resistance, etc.

Comparator function

Simultaneous, comprehensive output of resistance and voltage results.

Save measurement setting configurations

Up to 126 measurement configurations such as comparator setting criteria can be saved and reloaded. Saved configurations can be selected by external control.

Averaging function

Stable readings can be consistently obtained by averaging two to 16 measurements.

Measurement error detection

Detect poor contact or probe disconnections for highly-reliable measurements.

Self-calibration

Minor drift and gain fluctuations within the internal measurement circuitry are automatically corrected to maintain high accuracy.

Conditions of Guaranteed Accuracy

○ Temperature & humidity : 23 ˚C ±5 ˚C, 80% rh or less (non-condensating), ○ Warm-up time : At least 30 min.
○ After executing zero-adjustment ○ Average of 4 measurements

Resistance measurement range and accuracy

Range	3 mΩ	30 mΩ	300 mΩ	3 Ω	30 Ω	300 Ω	3000 Ω
Maximum display value	3.1000 mΩ	31.000 mΩ	310.00 mΩ	3.1000 Ω	31.000 Ω	310.00 Ω	3100.0 Ω
Resolution	0.1 μΩ	1 μΩ	10 μΩ	100 μΩ	1 mΩ	10 mΩ	100 mΩ
Measurement Current*1	100 mA	100 mA	10 mA	1 mA	100 μA	10 μA	10 μA
Measurement Current Frequency	1 kHz ±0.2 Hz						
Accuracy*2 *3	±0.5% rdg.±10 dgt.	±0.5% rdg. ±5 dgt.					
Temperature coefficient	(±0.05% rdg. ±1 dgt.) / ºC	(±0.05% rdg. ±0.5 dgt.) / ºC					

*1 Measurement current accuracy is ±10%
*2 Other 30 mΩ Range : Add ±3 dgt. for FAST, or ±2 dgt. for MEDIUM 3 mΩ Range : Add ±10 dgt. for FAST, or ±5 dgt. for MEDIUM
*3 Average function OFF Other 30 mΩ Range : Add ±8 dgt. for FAST, or ±4 dgt. for MEDIUM, or ±2 dgt. for SLOW
3 mΩ Range : Add ±20 dgt. for FAST, or ±10 dgt. for MEDIUM, or ±5 dgt. for SLOW

Voltage measurement range and accuracy

Range	10 V	100 V	1000 V
Maximum display value	±9.99999 V	±99.9999 V	±1100.00 V
Resolution	10 μV	100 μV	1 mV (0.000 V~999.999 V) 10 mV (1000.00 V~1100.00 V)
Accuracy*4 *5	±0.01% rdg. ±0.03 mV	±0.01% rdg. ±0.3 mV	±0.01% rdg. ±3 mV Guaranteed accuracy temperature: 0.000 V~±999.999 V
Temperature coefficient	(±0.001% rdg. ±0.3 dgt.) / ºC		

*4 Add ±4 dgt. for FAST, or ±2 dgt. for MEDIUM
*5 Average function OFF Add ±8 dgt. for FAST, or ±4 dgt. for MEDIUM, or ±2 dgt. for SLOW

Sampling times

Function		FAST	MEDIUM	SLOW
Ω V	(50 Hz)	28 ms	88 ms	384 ms
	(60 Hz)		74 ms	359 ms
Ω	(50 Hz)	12 ms	42 ms	276 ms
	(60 Hz)		35 ms	253 ms
V	(50 Hz)	16 ms	46 ms	281 ms
	(60 Hz)		39 ms	257 ms

Items in the parentheses () indicate supply frequency settings.
Tolerance: ±5 ms for SLOW, ±1 ms otherwise
For an external trigger source, if the measurement current mode is set to Pulse, or if continuous measurement is OFF: Add 1 ms for the Ω and V function, or 4 ms for the Ω and V function respectively.

BT3564 specifications (Accuracy guaranteed for 1 year, Post-adjustment accuracy guaranteed for 1 year, Product Warranty for 3 year)

Measurement signals	Resistance, Voltage
Measurement method	Four-terminal AC method (1 kHz ±0.2 Hz)
Measurement range	Resistance measurement range: 0 Ω to 3.1 Ω (Minimun resolution 0.1 μΩ) Voltage measurement range: DC 0 V to ±999.999 V (Minimun resolution10 μV) Voltage display range: ±1100.00 V
Resistance measurement range	3 mΩ / 30 mΩ / 300 mΩ / 3 Ω / 30 Ω / 300 Ω / 3000 Ω
Voltage measurement range	10 V / 100 V / 1000 V
DC Input resistance	5 MΩ
Open-circuit terminal voltage	25 Vpeak
Function	Ω V / Ω / V
Maxmum input voltage	±1000 V DC rated input voltage ±1000 V DC maximum rated voltage to ground
Sampling rate	Three steps – FAST/MEDIUM/SLOW
Response time	700 ms for measurements
Zero-adjustment	1000 count range (both resistance and voltage)
Triggering	Internal or external
Delay time	On/off, 0 to 9.999 seconds
Averaging samples	On/off, 2 to 16 samples
Comparator function	Judges:Hi/IN/Lo (Resistance and voltage measurement values are independently judged) PASS/FAIL decision: AND calculation of resistance and voltage measurement results (EXT. I/O output)

Statistical calculations	Total data count; valid data count; maximum, minimum and average values; standard deviation; population standard deviation and process capability indices (Cp, CpK)
Measurement value output	Measurement values are output via RS-232C upon trigger input
Measurement value storage	Up to 400 measurements
Panel save function	Up to 126 configuration setting Measurement function, resistance measurement range, voltage measurement range, auto-range setting, zero-adjust setting data, sampling rate, trigger source, delay setting, averaging and comparator settings, statistical calculation setting, display switching and key-lock.
Analog output	Output value:Measured resistance (displayed value) Output voltage:DC 0 V to DC 3.1 V
Other functions	Measurement error detection, self-calibration, key-lock, power frequency setting, reset
Interface	RS-232C, GP-IB, EXT.I/O, analog output
Operating temperature & humidity	0°C to 40°C, 80% rh or less (non-condensating)
Storage temperature & humidity	-10°C to 50°C, 80% rh or less (non-condensating)
Operating conditions	Indoors, below 2000 m ASL
Power supplies	AC100 V to 240 V (50/60Hz), 30 VA
Applicable standards	Safety:EN61010, EMC:EN61326 Class A
Dimensions and mass	Approx. 215W × 80H × 329D mm (8.46W × 3.15H × 12.95D in), Approx. 2.6 kg (91.7 oz)
Accessories	Power cord ×1, Instruction manual ×1, Usage precautions×1

Instrument



Model : BATTERY HiTESTER BT3564

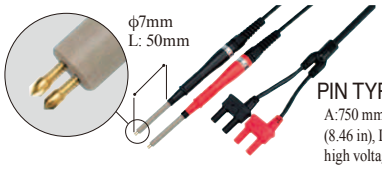
Model No. (Order Code) (Note)

BT3564

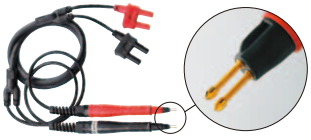
Note:
Measurement lead is not included. Please purchase an optional lead that matches your measurement application.

Options

1000 V compliant measurement leads (for measuring high voltage batteries)

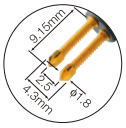


PIN TYPE LEAD L2110
A:750 mm (29.53 in), B:215 mm (8.46 in), L:1880 mm (9.17 ft), for high voltage battery measurements, 1000 V DC max.



PIN TYPE LEAD L2100
A:300 mm (11.81 in), B:172 mm (6.77 in), L:1400 mm (4.59 ft), for high voltage battery measurements, 1000 V DC max.

For tip replacement
(Common to L2110, L2100)



TIP PIN 9772-90
To replace the tip on the Pin type lead 9772, L2100/L2110, (one piece)

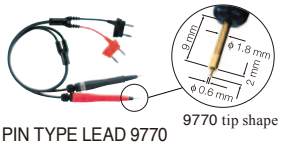
Zero adjustment board



ZERO ADJUSTMENT BOARD
Z5038
for L2110, L2100

Measurement leads (for measuring batteries up to 60 V)

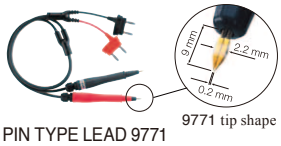
1.8 mm dia. single-axis type for measuring small electrodes



9770 tip shape

PIN TYPE LEAD 9770
A:260 mm (10.24 in), B:140 mm (5.51 in), L:850 mm (2.79 ft), 70V DC

0.2 mm parallel pyramid-type pins for measuring at thru holes and sub-millimeter objects



9771 tip shape

PIN TYPE LEAD 9771
A:260 mm (10.24 in), B:138 mm (5.43 in), L:850 mm (2.79 ft), 70V DC



CLIP TYPE LEAD L2107
A:130 mm (5.12 in), B:83 mm (3.27 in), L:1100 mm (3.61 ft), 70 VDC

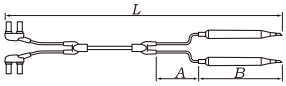


FOUR TERMINAL LEAD 9453
A:280 mm (11.02 in), B:118 mm (4.65 in), L:1360 mm (4.46 ft), 60V DC



LARGE CLIP TYPE LEAD 9467
A: 300 mm (11.81 in), B: 131 mm (5.16 in), L: 1310 mm (4.30 ft), tip ϕ 29 mm (1.14 in), 50 V DC

About probe length



A: between junction and probe
B: probe length
L: between connector and probe tip

Interface Connection cables



RS-232C CABLE 9637
For the PC, 9pin - 9pin, cross, 1.8m (5.91 ft) length



GP-IB CONNECTOR CABLE 9151-02
2 m (6.56 ft) length

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