# BATTERY TESTER BT3554

## Even Speedier Diagnosis of the Deterioration of Lead-acid Batteries

HIOKI

Measure and save data in as fast as 2 seconds, a 60% improvement from the legacy 3554 Easily create reports on your tablet or smartphone





For BT3554-01

For an updated list of supported countries and regions, please visit www.hioki.com.

## **Improved Noise Resistance**

#### Comparison of superimposed noise



Without noise reduction technology



With noise reduction technology

Backlight display that's easy to read, even in dim locations

### Use the New Test Lead for the Back of Distribution Panels and Other Hard-to-reach Places

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#### Test Leads to Fit your Application

#### PIN TYPE LEAD L2020



A: 70 mm (2.76 in) (Red), 150 mm (5.91 in) (Black, up to 630 mm (24.8 in)) B: 164 mm (6.46 in), L: 1941 mm (76.42 in) (Red)

#### **CLIP TYPE LEAD WITH TEMPERATURE SENSOR 9460**



A: 300 mm (11.81 in) B: 106 mm (4.17 in) L: 2268 mm (89.29 in)

TIP PIN 9465-90

(For the L2020, 9465-10)

PIN TYPE LEAD 9465-10 (Bundled accessory)

TIP PIN 9465-90 (For the L2020, 9465-10)

A: 45 mm (1.77 in) (Red), 105 mm (4.13 in) (Black, up to 515 mm (20.28 in)) B: 176 mm (6.93 in), L: 1883 mm (74.13 in)(Red)

#### LARGE CLIP TYPE LEAD 9467



A: 300 mm (11.81 in) B: 116 mm (4.57 in) L: 1360 mm (53.54 in) Large clip diameter: Approx. q29 mm (1.14 in)

#### **PIN TYPE LEAD 9772**



A: 45 mm (1.77 in) (Red), 105 mm (4.13 in) (Black, up to 515 mm (20.28 in)) B: 173 mm (6.81 in), L: 1880 mm (74.02 in)(Red)

#### Regarding probe length



A: Between split to probe, B: Probe length, L: Total length





Cable length: Approx. 2 m





Press the key to hold or save the measurement.



## Quickly Save Data and Create Reports Right in the Field

Just connect the test lead to the terminal

### Easily save data

Connect to the voltage terminal and measure

When the measured value stabilizes, save it automatically without having to operate the switch. Wait time can be as short as only 2 seconds to auto-save from when the test leads make contact with the battery terminals, cutting time by 60% compared to the legacy product.



#### Instantly submit loaded data

## Create reports on-site

#### Data transfer



## Dedicated application available

Not only can you view the data you loaded from the BT3554 into a tablet, smartphone, or PC in ledger format, you can also graph the data to display it by cubicle (up to 500 data sets). Then, instantly create reports on-site.

#### Graph display

Report display





#### Trend display for past data\*

Analyze in the office

Graphically display the trend of one cubical (max. 500 batteries) or the condition of selected batteries.

#### [Example of data displayed for selected batteries]



Bundled CD-R, Download from our homepage.

Just search for "GENNECT Cross".

How to download the application:

it from the Google Play<sup>™</sup> Store for Android<sup>™</sup> devices

The battery function in the App for the iPhone® and iPad® will be released in August 2016.

Download it from the App Store® for iPhone® or iPad®, or download

#### Interface specifications

Tablet or smartphone

• PC

USB	Transmission speed: USB 2.0, Connector: USB mini-B
	Bluetooth® 4.0LE
	Transmission distance: Approx. 10 m (32.81 ft), line-of-sight
Supported OS: Android <sup>™</sup> 4.3 or later, iOS 8 or later	
Bluetooth® (BT3554-01 only)	Supported Android <sup>™</sup> devices: Devices that support <i>Bluetooth</i> <sup>*</sup> SMART or SMART READY Supported iOS devices: iPhone <sup>®</sup> 5 or later, third-generation iPad <sup>®</sup> or later, first-generation iPad mini <sup>™</sup> or later, fifth-generation iPod Touch <sup>®</sup> or later

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Trend display is only available with a PC application.

#### Product Name: BATTERY TESTER BT3554

Model No. (Order code)	Wireless transmission
BT3554	_
BT3554-01	Bluetooth® equipped

#### Accuracy specifications

Accuracy guaranteed for 1 year, Post-adjustment accuracy guaranteed for 1 year Temperature and humidity for guaranteed accuracy: 23°C ±5°C (73°F ±9°F), 80% RH or less, Warm-up time: None (Unnecessary), after zero-adjustment

#### Resistance measurement accuracy

Measurement current frequency: 1 kHz  $\pm$ 30 Hz, With function for avoiding noise frequency enabled: 1 kHz  $\pm 80$  Hz

Measurement current accuracy: ±10%

Range	Max. display	Resolution	Measurement accuracy	Measurement Current
3 mΩ	3.100 mΩ	1 μΩ	±1.0% rdg. ±8 dgt.*	160 mA
30 mΩ	31.00 mΩ	10 μΩ		160 mA
300 mΩ	310.0 mΩ	100 μΩ	±0.8% rdg. ±6 dgt.	16 mA
3Ω	3.100 Ω	1 mΩ		1.6 mA

\* If zero-adjustment was not performed, add the following values:

When model L2020 is used: ±5 dgt.

When model 9465-10 is used:  $\pm 6 \text{ dgt}$ .

When model 9772 is used: ±1 dgt.

When model 9460 is used: ±16 dgt

When model 9467 is used: ±5 dgt.

When using test leads that are not listed above, or test leads whose length has been extended, accuracy is guaranteed only after zero-adjustment is performed.

#### Voltage measurement accuracy

Range	Max. display	Resolution	Measurement accuracy
6 V	±6.000 V	1 mV	0.00% rda 16 dat
60 V	±60.00 V	10 mV	±0.08% rdg. ±6 dgt.

Temperature measurement accuracy

Measurement range	Max. display	Resolution	Measurement accuracy
-10 to 60°C	60°C	0.1°C	±1.0°C

#### Comparator function

Compares setting values (Resistance: 2 levels, Voltage: 1 level) and measured values Determination method: Following chart, beeping sound, red backlight lights up with beeping sound

Savable settings: 200 tables

Value for warning Value for failure

		Resistance	Resistance	Resistance
		(low)	(medium)	(high)
Value for	Voltage (high)	PASS	WARNING	FAIL
warning	Voltage (low)	WARNING	WARNING	FAIL

#### General specifications

1				
Measurement types		Internal resistance measurement for batteries (AC four-terminal method) Terminal voltage measurement for batteries (DC voltage) Temperature measurement (when using the 9460)		
Display upd	ate rate	Approx. 3 times/s		
Absolute ma input voltage		±60 V DC max (No AC input allowed)		
Operating e	nvironment	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 suppl	у	AA (LR6) Alkaline Batteries x 8		
Continuous operating time		Approx. 8.5 hours (When using alkaline batteries)		
Auto power s	ave	Auto power off after 10 minutes unless during data transmission		
Dielectric st	rength	1.5 kV AC for 1 minute, between all measurement terminals and the USB terminal		
Applicable	Safety	EN 61010		
standards	EMC	EN 61326		
Dimensions		Approx. 192 mm (7.56 in) W x 121 mm (4.76 in) H x 55 mm (2.17 in) D		
Mass		Approx. 790 g (27.9 oz) (including batteries) BT3554 Approx. 800 g (28.2 oz) (including batteries) BT3554-01		
Accessories		PIN TYPE LEAD 9465-10, ZERO ADJUSTMENT BOARD, PC Software Application CD, Power-on option sticker, Neck strap, AA (LR6) alkaline batteries x 8, Fuse, USB cable, Carrying case, Instruction manual, Cautions for using radio waves (BT3554-01 only)		

#### Functions

HOLD	<ol> <li>Hold measured value by pressing the HOLD key or when shorting the EXT. HOLD terminal</li> <li>Automatically hold measured value after it stabilizes</li> </ol>
Memory storage	Saving, loading, and deleting measured values Saved items: Date, resistance, voltage, temperature, comparator threshold, judgment Storable data: 6000 sets (500 data sets per unit) Memory structure: 500 data sets per unit (12 units)
Auto-Memory function	Automatically saves measured values to memory when they are held
Memory loading	Load stored data on instrument or with PC application in order

\*The thresholds for determining the pass/fail condition of a battery depend on the specifications and standards of the battery manufacturer, battery type, capacity, etc. It is important and necessary to always conduct battery testing against the internal resistance and terminal voltage of a new or reference battery.

In some cases, it may be difficult to determine the deterioration state of traditional open type (liquid) lead-acid or alkaline batteries, which demonstrate smaller changes in internal resistance than sealed lead acid batteries.

#### The Advantages of 4-Terminal Measurement The Quality of Your Test Lead CAN Make a Difference

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-Explanation-

The difference in the measurement values obtained by When measuring certain batteries such as lead-acid cells, the different test leads is a physical phenomenon caused by the difference in distance between the SOURCE and SENSE pins of the test leads. This is more significant of the 4-terminal test leads used for measurement. However, when the battery terminal contains a resistance higher than the internal resistance of the battery under test. is safe to assume that each specific value reflects the correct The figure on the right demonstrates how even minute physical differences between the SOURCE and SENSE pins for two types of test leads can affect the detected voltage level of the battery.



important to use test leads having the same tip shape and dimensions in order to maintain measurement consistency.

value obtainable by the respective test leads.

resulting measurement value may differ depending on the

test leads used to conduct the measurement. This difference is due to the shape of the probe tip as well as the dimensions

despite a difference in value given by different test leads, it

Based on this principle, when diagnosing battery deterioration in a time series, it is particularly

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All information correct as of July 14, 2016. All specifications are subject to change without notice

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