

# Application Note

— Example Applications —

## Improving the Quality of Testing Processes

Preventing erroneous judgments caused by degraded testing equipment

As the transition to electric vehicles (EVs) and adoption of self-driving technologies push up the quality of vehicle parts and components, battery reliability requirements continue to grow more stringent. Higher-quality testing processes and equipment are needed in order to improve the reliability of battery safety testing.



### Issue

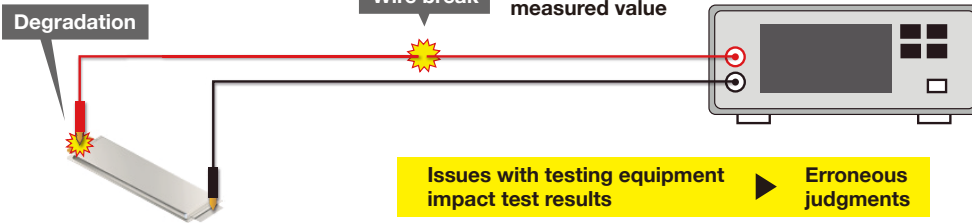
Issues with testing equipment (probe wire breaks and degraded contact) are preventing proper testing.

Additional resistance at test location

Degradation

Wire break

Infinitely large measured value



In battery safety testing, issues with testing equipment (wire breaks and additional contact resistance due to degradation) can impact test results. As test equipment develops wire breaks and as wiring degrades, measured values become greater than the actual resistance at the location being measured. (Measured values become infinitely large if there's a wire break, and resistance at measurement locations increases as wiring degrades.) This trend poses the risk of erroneous judgments, in which defective parts are incorrectly judged to be non-defective.

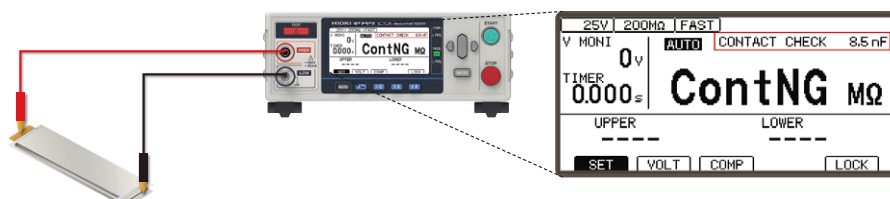
### Solution

Use the BT5525's contact check function to check the status of the equipment prior to testing!

Verify the absence of wire breaks and degraded wiring before testing!

BT5525  
Contact check function

Proper testing is possible since judgments are based on the capacitance of test locations.



This issue can be resolved with the BT5525's contact check function. The function measures the capacitance between measurement terminals (including stray capacitance and the capacitance of the circuit under test) to generate a pass/fail judgment. The capacitance values measured by the contact check function can be used to manage contact status in a quantitative manner.

Instrument used

**BATTERY INSULATION TESTER BT5525**

Hioki product

# HIOKI

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application\_BT5525\_ContactCheck\_E1\_220425

All information correct as of Apr. 25, 2022. All specifications are subject to change without notice.