

FACT SHEET

BATTERY ANALYZER & EIS

Acquiring innovative testing equipment and techniques to keep your batteries performing at their best

Testing can determine the root cause of a failure should your batteries fail or not perform as expected, and when Intertek investigates, our findings provide you with the insight to solve the problem, take action and prevent recurrence.



Battery Failure

Battery life is dependent on how the battery is operated.

Deep cycling and rapid charging can shorten life, while slowly and partially cycling the battery can extend it. In any case, every manufacturer will have their own definition for an end-of-life condition.

Capacity is a material dependent property and any changes to the material will subsequently cause changes in capacity.

With our state of the art equipment and cutting-edge techniques, Intertek can pinpoint the source of failure.

Our experience and understanding of energy storage specifically around batteries mean we can provide Total Quality Assurance solutions quickly and with the minimum of disruption to your business meeting performance, reliability and safety criteria.

Battery Analyzer

This compact and modular potentiostat/galvanostat is a superb addition to the lineup of our failure analysis laboratory equipment for expanding our battery testing capabilities.

Capabilities

- Battery cell performance testing – unbiased third-party testing of innovative battery chemistries
- Failure analysis – non-destructively evaluate failed or failing cells using electrochemical impedance microscopy
- Field-testing – perform impedance testing and battery cycling tests of cells on-site/ in the field to assess battery life and performance

Importance of Impedance Analysis

Electrochemical impedance spectroscopy (EIS) is a powerful technique for the characterization of electrochemical systems and has widespread application in the field of characterization of materials. It is routinely used in the characterization of coatings, batteries, fuel cells, and corrosion phenomena.

It has also been used extensively as a tool for investigating mechanisms in electrodeposition, electrodisolution, passivity and corrosion studies, diffusion of ions across membranes, study of semi-conductor interfaces and biosensors.

Key Features

- Frequency range 10 μ Hz – 32 MHz
- Frequency resolution 0.003 %
- Input range 10 V
- Signal types 1 sine, 5 sine, 15 sine
- Input channels E and I from the potentiostat/galvanostat or X and Y external signals
- AC amplitude 0.2 mV to 0.35 V rms in potentiostatic mode
- 0.0002 – 0.35 times current range in galvanostatic mode
- Data presentation Nyquist, Bode, Admittance, Dielectric, Mott-Schottky and more
- Data analysis fit and simulation and find circle
- Graphical equivalent circuit in advanced electrochemical software

FOR MORE INFORMATION

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