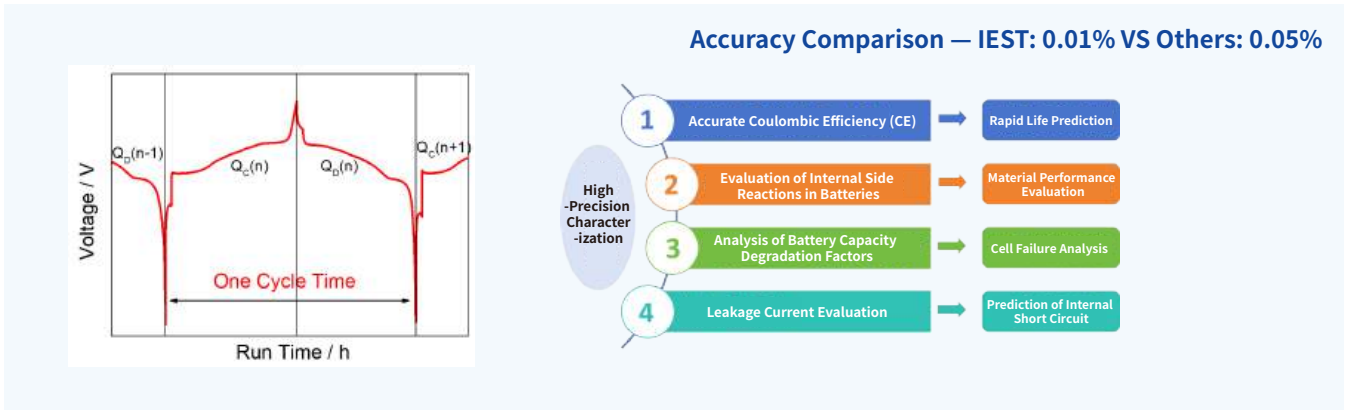


Electrochemical Property Analyzer

● ECT Series ● ERT Series

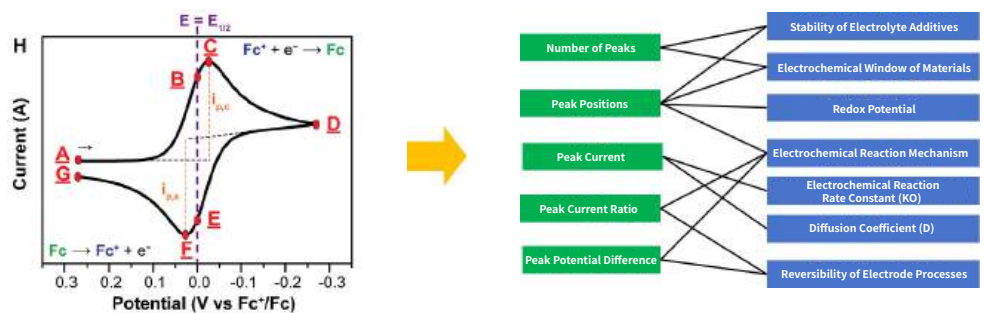


1.High-Precision Current & Voltage Testing

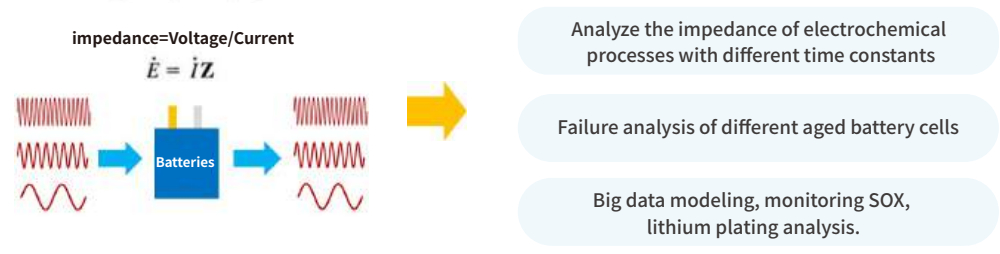


The 0.01% testing accuracy can precisely measure the specific capacity of new materials and detect subtle side reactions during the initial stages of battery cycling. This allows for a comprehensive performance evaluation and lifetime prediction of the battery in a short period.

2. CV&EIS



Cyclic Voltammetry (CV) is an electrochemical method that applies a linear voltage sweep to an electrode and records the current response. It analyzes reaction kinetics, measures redox potentials, studies electrode mechanisms, and evaluates material activity. CV provides qualitative and quantitative information, useful for quickly screening and assessing electrode materials.



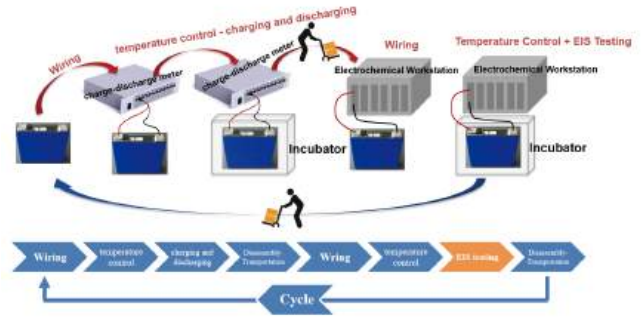
EIS applies a small AC signal to measure a battery's impedance at different frequencies. It studies electrochemical processes, evaluates materials, monitors battery health, and analyzes aging mechanisms, providing detailed system information.

Integrating CV and EIS functions to meet customer needs for electrochemical testing

3. CV&EIS + Battery Cycler

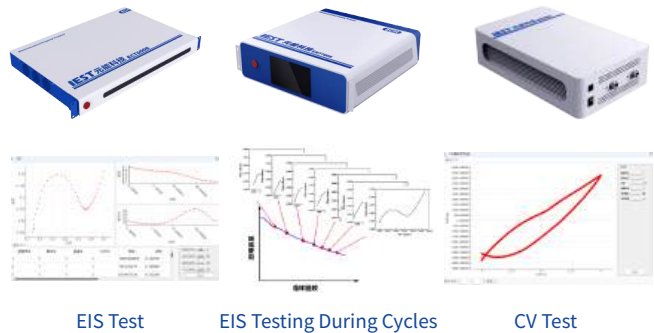
Traditional methode

Disadvantages: Time-consuming handling and excessive human interference.



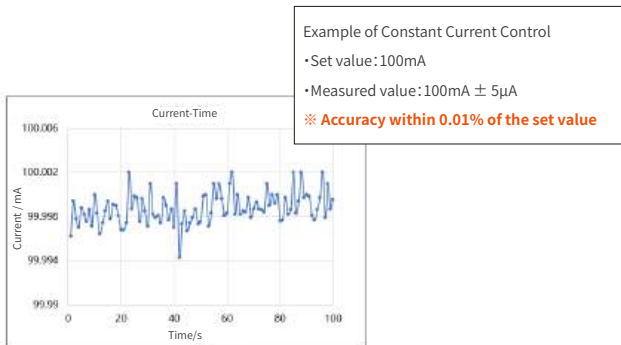
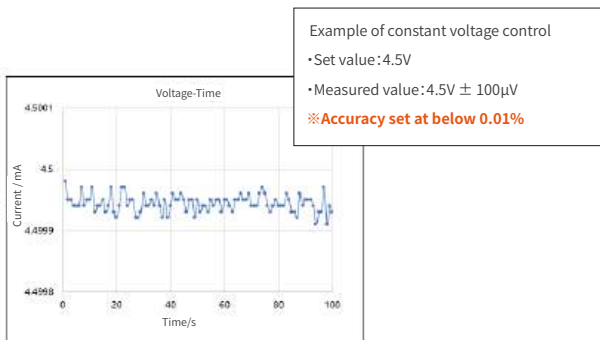
IEST Methode

Advantages: Single wire connection, integrated test-steps setting.



Minimize wiring, handling, and temperature adjustments, streamline operations

4. IEST Innovative Solutions



ECT & ERT Series Products

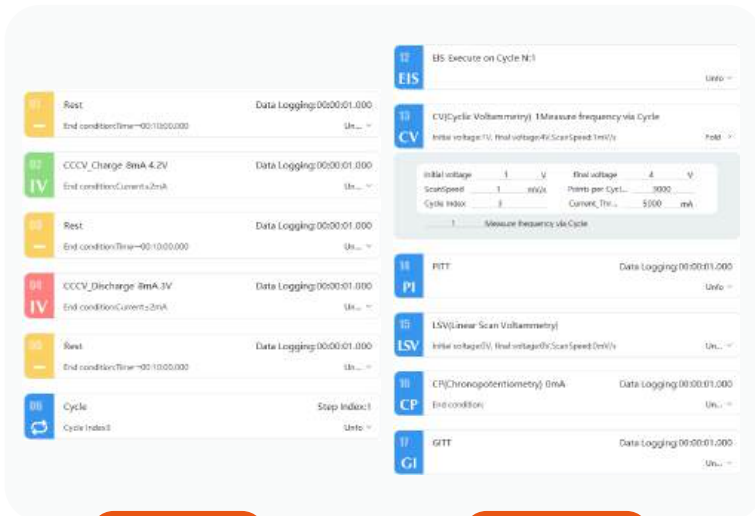
| Product | Test Items | Function |
|-------------------------|--|---|
| ECT/ERT All Series | Constant current, constant voltage, constant power, constant resistance, rate mode, etc. | Conventional charging and discharging functions |
| ECT/ERT All Series | Capacity-cycle curve, dQ/dV curve, dV/dQ curve, etc. | Study the relationship between the diffusion process of matter and charge transfer |
| ECT/ERT All Series | PITT, GITT, DCIR | Study the relationship between the diffusion process of matter and charge transfer |
| ECT/ERT All Series | CA, CP | Record the change of potential/current with time under constant current or constant voltage |
| ERT All Series | CV, LSV | Apply linear voltage and record current-voltage curve |
| ERT-6Series/ERT-7Series | EIS | Study the relationship between electrochemical impedance and frequency |

Equipped with a 24-bit ADC and 16-bit DAC, achieving high-precision voltage and current control and testing.

5. Rich Software Testing Functions

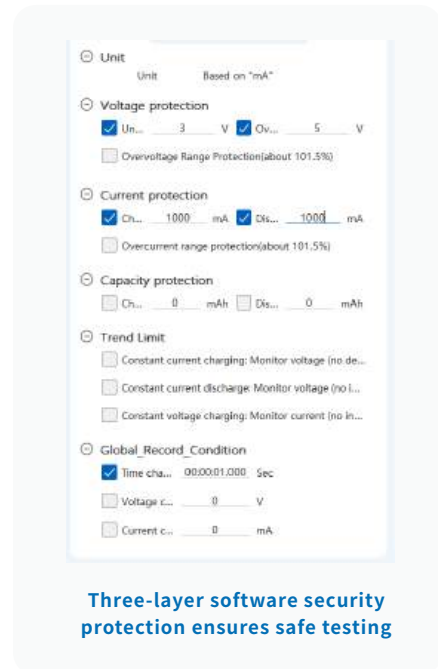


Real-time data display of each channel



Charge and Discharge Steps

Electrochemical steps



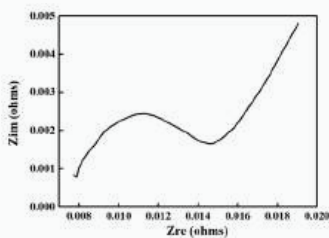
Three-layer software security protection ensures safe testing

Template-based steps allow easy operations without coding knowledge.

6. Offers common functions of an electrochemical workstation

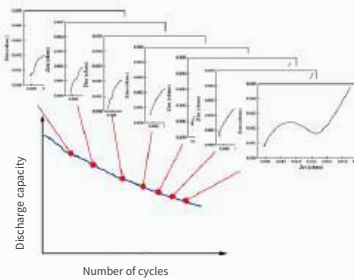
The ERT series includes common electrochemical workstation functions such as CV, LSV, EIS, CA, and CP.

Case 1: EIS Test



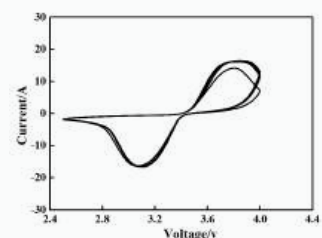
2.2Ah Pouch cell Impedance Test
[Frequency: 1500Hz~0.1Hz]

Case 2: Cyclic EIS Test



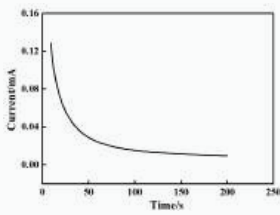
Case 3:

CV (Cyclic Voltammetry) Test

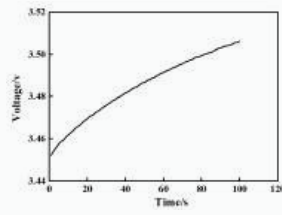


CV test of 120mAh Pouch cell
[Scan speed: 1mV/s]

Case4: CA·CP Test



120mAh Pouch cell CA Test



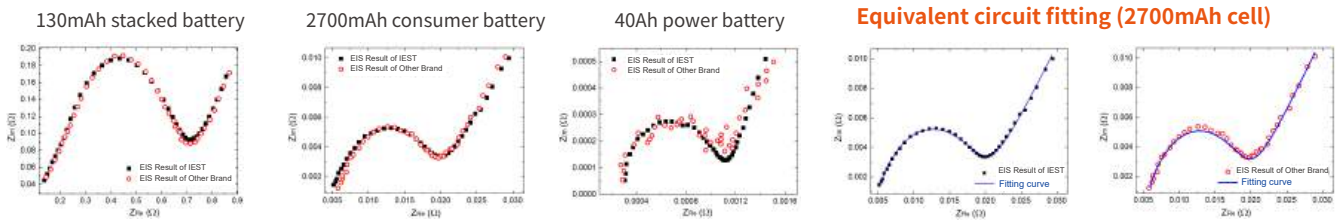
120mAh Pouch cell CP Test



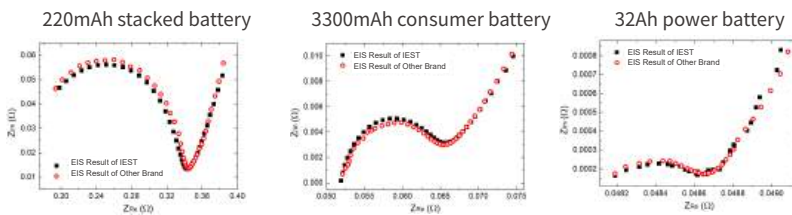
- EIS
- CV
- LSV
- CA
- CP
- GITT

Eliminates switching time between instruments

7. Comparison of EIS results with other electrochemical workstations



Comparison with well-known foreign brand A electrochemical workstations






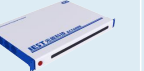



Comparison with well-known foreign brand B electrochemical workstations

| Fitting parameters | UEST | Others | COV(%) |
|--------------------|---------|---------|--------|
| Rs | 0.00444 | 0.00426 | 2.07 |
| Rct | 0.0152 | 0.0147 | 1.67 |
| CPE-T | 0.8725 | 0.8257 | 2.76 |
| CPE-P | 0.7446 | 0.7636 | 1.26 |
| Warburg Coff. | 88.27 | 88.55 | 0.15 |

- EIS test results show COV within 2%, ensuring high reproducibility compared to other workstations.
- Better SNR in large cell testing than workstations without current amplifiers.

8. Model Parameter Table

| | ECT6008 Series | | | ERT6002 Series | | ERT7008 Series | |
|------------------------------|---|---|---|---|---|---|---|
| Physical picture |  |  |  |  |  |  |  |
| Product model | ECT6008-5V10mA | ECT6008-5V100mA | ECT6008-5V12A | ERT6002-5V12A | ERT6002-10V1.5A | ERT7008-5V100mA | ERT7008-5V12A |
| ★CV&LSV test | / | √ | √ | √ | √ | √ | √ |
| ★EIS test | / | / | / | 1500 ~ 0.1 Hz | 100k ~0.01 Hz | 100k ~0.01 Hz | 100k ~0.01 Hz |
| ★EIS Applicable battery type | / | / | / | 120mAh~60Ah Battery | Button battery & symmetric battery & pouch cell | Button battery & symmetric battery & pouch cell | Button battery & symmetric battery & pouch cell |
| Number of channels | 8 | 8 | 8 | 2 | 2 | 8 | 8 |
| Voltage Range | ±5V | ±5V | ±5V | ±5V | ±10V | ±5V | ±5V |
| Current range | 10mA | 100mA | 6A / 12A | 6A / 12A | 1.5A | 10mA / 100mA | 6A / 12A |
| Temperature range | -20~80°C (Temperature chamber) | | | | | | |
| Test accuracy | ±0.02% F.S (Full scale range) | ±0.01% F.S (Full scale range) | | | | | |
| Current range | 2measurement range (automatic switching) | 4 measurement range (automatic switching) | | | | | |
| Maximum sampling rate | 10 SPS | 100 SPS | | | | | |
| Response time | 1ms | | | | | | |



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