# Electric Vehicle (E.V.) Battery Test Systems

<table>
<thead>
<tr>
<th>Description</th>
<th>Features</th>
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<td>ATS has vast experience with EV battery cells and processes for automation production including test systems. Our knowledge with high-speed requirements and overall EV automation leadership provides a strong solution for battery production needs. ATS is a global automation leader with the size and experience required to support through the complete life cycle of a battery program.</td>
<td>■ Customizable design to meet specific customer requirements.</td>
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<td>■ Gauge capable with minimized cycle times.</td>
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<td>■ ATS Test executive software backbone:</td>
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<td>■ Powerful user customization, Programmable and configurable through scripting environment</td>
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<td>■ Pass fail determination based on user configurable settings around each measurement made.</td>
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<td>■ Data is archived for easy recollection.</td>
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<td>■ Intuitive visual tools - color-coded results, displays, messaging graphs and diagnostic features.</td>
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<td>■ Incorporating readily available Industry standard measurements devices including Keysight and National Instruments products.</td>
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## Cell Test:
- Open Circuit Voltage (OCV)
- AC & DC Internal Resistance (IR)
- Weld Resistance

## Module Test:
- IsoSPI communication
- Weld and Busbar resistance uOhm
- Individual Cell Voltage & calibration
- Individual Thermistor Temperatures
- Total OCV
- DC Internal Resistance (DCIR)
- Leak test
- Cell Self Discharge
- HiPot

## Pack Test:
- CAN & Flexray communication
- All Module Cell and Thermistor
- All Battery Energy Management (BEM) HV power control / isolation
- Flashing of BEM
- Charge / Discharge @ 1C
- DCIR @ 2 - 4C
- HiPot
- Leak test

## Specifications

### Cell
- Cycle time > 25 cells per second
- ACIR 0-10 Ω, ±0.5mΩ
- OCV 0-5VDC, ± 30µV

### Module
- Weld resistance, 0 to 10mΩ, ± 30µΩ
- OCV: 100V, ±40mV
- DCIR: 160V, 440A, 40kW, ± 5mV
- HiPot: 6.5kV, 0.25%

### Pack
- Charge/Discharge: 800V, 400A, 200kW
- Load Regulation: 10 mV, 10 mA
- Programming Accuracy: 400 mV, 450 mA
- Measurement Accuracy: 50 mV, 120 mA
- Transient response: 500 µs

Contact ATS directly for custom or product specific applications beyond the scope of this document.

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August 2019