iTest Battery

iTest.BTS - Battery Test System

Integrated Data Acquisition and Control Software for Battery Testing Applications

The typical battery test lab includes a variety of equipment from multiple vendors, including environmental chambers, programmable power supplies, battery management systems, and electronic loads. Managing and controlling all these units can be difficult and time consuming.

Based on iTest, A&D's proven data acquisition and control platform, iTest.BTS addresses all these challenges and more. Configurable for cell, pack and module testing, iTest.BTS integrates with a wide variety of third-party devices, regardless of manufacturer. The open architecture makes the system expandable, allowing for additional test equipment to be added at any time.

iTest.BTS provides a single interface for test setup and allows for both manual and automated control using included industry-standard parameterized test cycles. Battery specification files can be created or customized to characterize the specific unit under test, including testing parameters and safety limits. iTest.BTS can also be configured to communicate with most battery management systems via CAN or LIN protocols. iTest.BTS integrates seamlessly with A&D's LabWorX centralized laboratory management system, which allows for remote monitoring, while it coordinates testing across an entire lab, and provides centralized data storage and retrieval, utilization tracking, automated reporting and test scheduling capabilities.
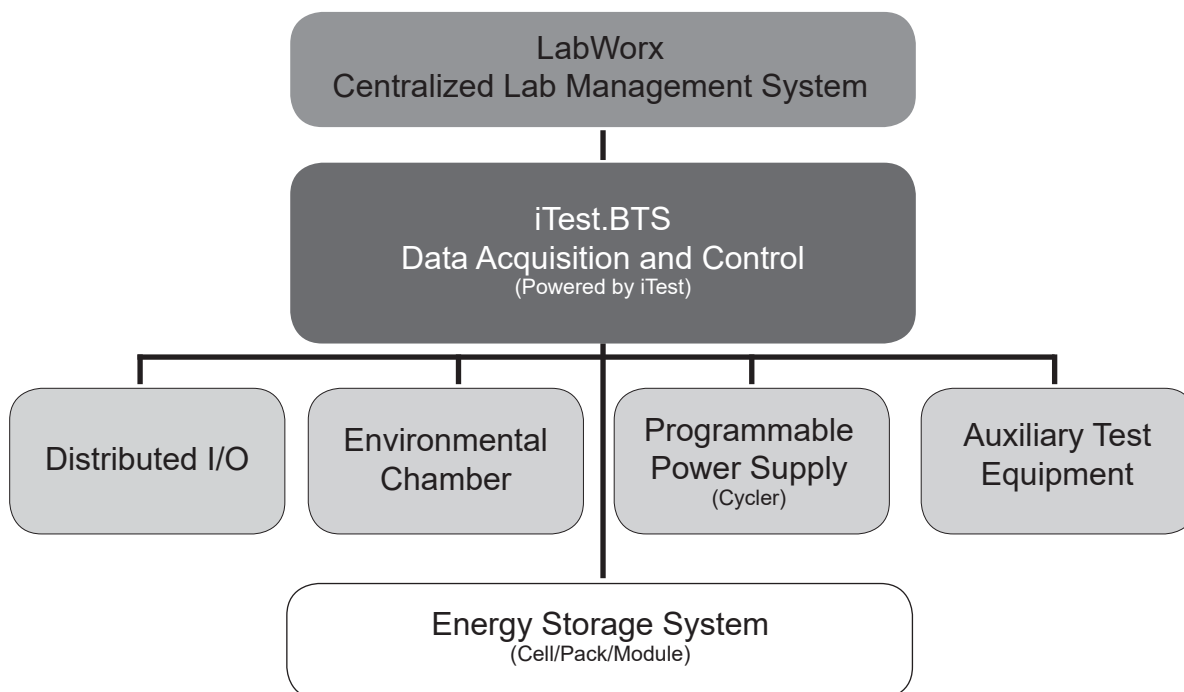
Highlights:

- Simplified testing and streamlined control through seamless integration with a wide variety of test equipment, regardless of manufacturer

- Large library of existing interfaces to common third-party measurement instruments

- Pre-configured instrument and test cycle modules allow for quick installation

- A single test schedule can be used to run the same profile for different battery cell packs and modules

- Convenient off-line simulation for test development verification

- Open architecture for I/O hardware integration

- Integrated reporting package provides reports at the test cell or a remote location

iTest Battery (iTest.BTS) Monitoring screen

Battery Test System Architecture

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                    │            LabWorx                   │
                    │  Centralized Lab Management System   │
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                    │            iTest.BTS                 │
                    │   Data Acquisition and Control       │
                    │        (Powered by iTest)            │
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| Distributed I/O | Environmental Chamber | Programmable Power Supply (Cycler) | Auxiliary Test Equipment |

Energy Storage System
(Cell/Pack/Module)

Device Drivers

- Thermal Chamber (TCP/IP, RS-232/485)
- Programmable Power Supply (TCP/IP, CAN)
- Data Acquisition and Control (TCP/IP)
- Safety Systems (TCP/IP, RS-232/485)
- Laboratory Management System (TCP/IP)
- Chiller/Cooler (TCP/IP, RS-232/485)
- Vibration Shaker Table (TCP/IP)
- Simulation Platform (TCP/IP)
- User-Defined Custom Devices (TCP/IP, RS-232/485, CAN)
- Battery Management System (SMB, CAN, LIN)
- Others available upon request

Standard Supported Tests

- Static Capacity
- Hybrid Pulse Power
- Calendar Life
- Energy Efficiency
- Reference Performance
- Constant Power Discharge
- User Defined