Battery Test System

Application

Test of up to 30 smart batteries simultaneously. Each battery (UUT) has built in circuitry to ensure correct charging. The system tests both the characteristics of the cells and the charging circuitry. The UUT's are tested in parallel, asynchronous to each other and can be removed/connected independently as soon as the individual UUT tests are completed. This ensures optimal use of the instrumentation as well as minimum handling time of the UUT's.

Testing of a UUT starts automatically when the system detects a new UUT is connected to a position in the fixture.

The system is serviceable via remote connection.

Software

The application is based on National Instruments TestStand and LabView. The software executes in several threads using a modified parallel process model to ensure straight forward implementation of the UUT test sequence.

Diversity handling takes care of handling test limits and stimulus that changes depending on the specific product variant of the UUT.

Diversity handling ensures full tracking of any changes in test limits etc.

Datalogging to Microsoft SQL database.

Product Diversity handling, data logging and the Grapical User Interface (GUI) is implemented using standard components of DSE's EasyStand toolbox.

Hardware

Power supplies for UUT's. Port expanders for communication with UUT charger circuits. Cadex battery tester. PXI instrumentation for additional measurement capability. Switching system. Fixturing is based on Everett Charles Technologies (ECT) fixture.