



Overview

Unico's Battery Simulation System is an all-digital DC supply engineered specifically for such simulation applications as:

- Battery simulation
- Battery load
- DC supply
- Resistance simulation
- Fuel cell simulation
- Fuel cell load
- DC load

Features **Voltage Control**

In its standard operating mode, the battery simulator controls output voltage. Two methods of regulating voltage are available. The first controls voltage according to either a constant or dynamic set point, regardless of the current draw. The second decreases voltage in response to a load to simulate the impedance of a battery. The amount of decrease is programmable and can be customized to simulate specific battery designs.

Current Control

The battery simulator can control the amount of current that is delivered for applications where the current must either be limited or maintained at a specified level.

Resistance Simulation

The system can also simulate a resistance by controlling current or voltage. The level of simulated resistance can be either constant or continuously varied.

Full Filtered Output

Full filtering is part of the battery simulator package. Systems can be designed with minimal current and voltage ripple. Typical ripple is less than 1%.

Programmable Slew Rate

The simulator has a programmable control that regulates the rate of change of the output. The programmed rate regulates the response due to a change in both the requested output and changes in the load.

Common-Bus Design

Unico's common-bus design allows a battery simulator to be added to a system with other Unico drives. Energy drawn from or sent to the simulator is transferred to and from the common DC bus. In this way, the energy for the battery simulator is shared with other drives in the system.

2400

Battery
Simulation
System

Features
(continued)

Line Regeneration

For stand-alone battery simulators, systems can be designed to recycle regenerated power back to the three-phase grid bus. This eliminates the need to dump valuable power into resistors.

High Sampling Frequency

The high sampling frequency of the Unico drive provides quick response to changing command or load levels. With sampling frequencies ranging from 1 to 10 kHz, performance can be customized to the application.

Modular Design

The modular design of the 2400 drive allows individual components to be selected and sized for each application. Inverters for running motors and those used as line-regenerative front ends are fully interchangeable, reducing the size of individual components and the quantity of spare parts required.

Standard Serial Interface

The drive includes a standard serial interface on the mother board that lets users monitor drive screens and change parameters using a remote terminal.

High-Speed Serial Interface

An optional high-speed serial interface provides the ability to communicate to the drive using such high-speed networks as Profibus, ControlNet, Modbus Plus, Ethernet, Modbus TCP, Remote I/O, DeviceNet, CANbus, LonWorks, and Interbus S.

High-Speed Fiber-Optic Interface

An optional high-speed fiber-optic interface allows real-time synchronous control. Advantages include full optical isolation, full-width data communications without loss of resolution due to noise, elimination of any drift problems due to noise, and synchronous sampling of data within the drive.

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