Emerging Technologies

APPLICATION BRIEF
2020

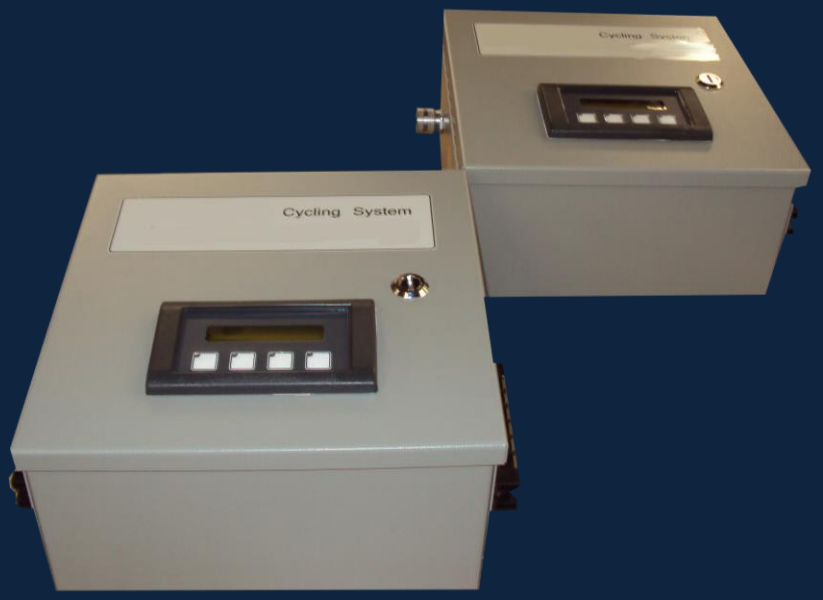
AUTOMATED POWER CYCLING TESTERS

Brief Description:

Emerging Technologies, LLC was called upon to develop a custom DC Power Cycling System to implement many cycles of, power up and power down, of multiple DC power based DUTs. The fixture was to be operated for extended period durability tests.

The new design was created to power cycle three DUTs per enclosure for a total of six DUTs. The system was designed to use a customer provided, externally connected, 24 volt DC power supply. Each of the six DUTs independently draw up to twenty amps DC to start up. The user configurable interface allows the user to enter the DUT on-time and dwell time between cycles. Additionally, the system keeps track of the number of operations until reset by the operator.

This system includes components suitable for long periods of operation. External connection for customer supplied power source keeps the initial system cost down while allowing for the flexibility to use different power supplies for different tests.



Customer Benefit:

The customer is able to perform automated power cycle product testing in a controlled environment. The low cost modular design allows adding additional channels to be feasible. The modular design not only allows for significant adjustability but lends itself to re-configuration for future testing.

ET Responsibilities:

- Functional Specification Generation
- ✓ Design / Engineering
- ✓ Fabrication
- Programming – Software
- ✓ Programming – Firmware
- Circuit & PCB Design
- On-Site Commissioning
- Post Commissioning Support
- Other

Technologies:

- Embedded Computers
- Microcontrollers
- Visual Software
- Control Software
- ✓ Data Acquisition – Cycle Counting
- Computer Based Control
- Communications
- System Integration
- ✓ Other – User Interface

Special Features:

- ✓ Low Cost Simplistic Design.
- ✓ Scalable Design.
- ✓ Adjustable on and Dwell Time.
- ✓ External Power Supply Connectivity.
- ✓ Resettable Operations Counter.

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