

SERVO BASED DUT ROTARY CYCLING SYSTEM

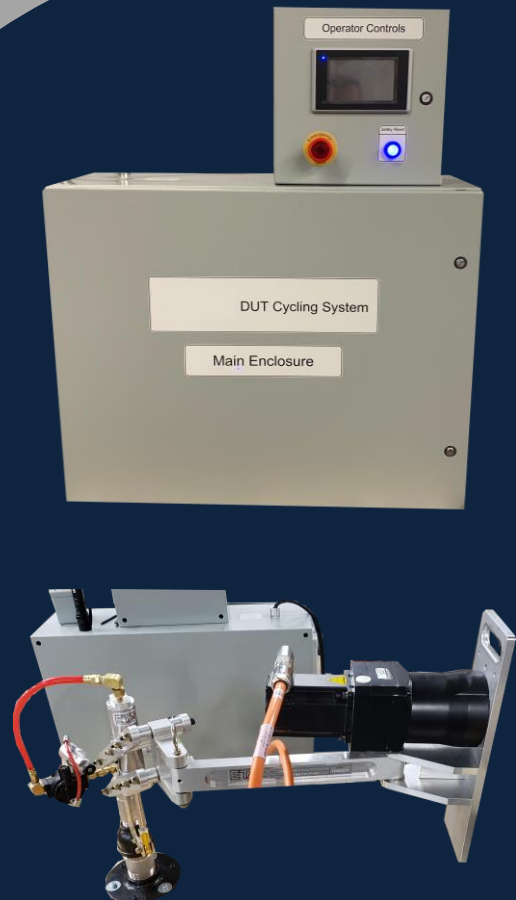
Brief Description:

Emerging Technologies, LLC. was called upon to develop and build a servo-based DUT cycling system to replace an existing pneumatic cycling system. The existing DUT safety enclosure was to be re-used and interfaced by the new system. The purpose of the system is to cycle the DUT for a minimum number of cycles for the purpose of both breaking and detection of infant mortality. The interest in servo-based cycling stemmed from the need to eliminate the significant air consumption required by the original pneumatic cycling system.

The new system was developed to support multiple variations in DUT with similar but different profiles. The system supports operator configurable start position, stop position, and torque settings for both clockwise and counter clockwise rotations. Total cycles are configurable and passing cycles are tracked. Safety interlocks are designed in to protect the operator and the equipment. In addition to rotary cycling the system has several electrical connection points that are used to perform continuity checks to prove contact closures associated with the DUT cycles. All results from testing are stored on a SD card located in the servo drive.

Customer Benefit:

The customer is able to Cycle multiple variations of DUT with feedback and results storage without significant plant air usage. The operator is able to easily configure the rotary start and stop positions on a per test basis if required. All results are stored at the test system on a SD card for later recall.



ET Responsibilities:

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

Technologies:

- ✓ Embedded Computers
- Microcontrollers
- ✓ Visual Software
- ✓ Control Software
- ✓ Data Acquisition
- Computer Based Control
- ✓ Communications – serial
- ✓ System Integration
- ✓ Other – Pneumatic Assist Swingarm

Special Features:

- ✓ Pneumatic Assist Swingarm DUT Interface.
- ✓ Operator Configurable Standalone Servo Control.
- ✓ Touch-screen HMI.
- ✓ At system SD Card Results Storage.
- ✓ DUT enclosure Safeguard Interface.
- ✓ Connect Bulkheads.