

APPLICATION BRIEF

2020

HIGH VOLTAGE CONDITIONING AND TEST SYSTEM

Brief Description:

Emerging Technologies, LLC was called upon to design and build a custom High Voltage Conditioning and Test System incorporating a customer provided DUT fixture and safe room. The system was to verify the DUT to be correctly manufactured and provide a high voltage burn period to condition the DUT for use in the next phase of manufacturing of the final product.

The system required specific modifications to the high voltage set to accommodate higher than typical accuracy of the high voltage measurement circuits and allow for longer than typical run time with specific leakage current for the conditioning cycle.

A new LabVIEW test application was developed to perform the steps required by the customer provided test specification. Safety management, integration with plant systems including product tracking database, and optical I/O subsystem were employed. Final test report generation was also included with the new test system application.

The standard ET system design package was developed for customer approval and to support the ET system build effort. Field commissioning and operator training were supplied by ET. DUTs are interfaced via special customer provided fixture as part of the final system.

Customer Benefit:

The customer is able to perform specialized product conditioning and testing in an operator safe environment. The system was installed in a special purpose built room provided by the customer. Accuracy was increased via high voltage accuracy measurement upgrades.



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
- ✓ Computer Based Control
- ✓ Communications – Ethernet
- ✓ System Integration
- ✓ Other – Special accuracy and burn features

Special Features:

- ✓ Customized High Voltage Test Set.
- ✓ Integration of Customer Specialized DUT Fixture.
- ✓ Operator Safe DUT Testing Room Integration.
- ✓ Plant Systems Interface.
- ✓ Increased Voltage Accuracy Modification.
- ✓ High Voltage on-time burn feature.