

# APPLICATION BRIEF

## 2020

## HIGH VOLTAGE AND PD TEST CHAMBER

### Brief Description:

Emerging Technologies, LLC. was called upon to design, build, and deploy a complete test system capable of PD and high voltage testing while maintaining an economic and compact design.

Incorporated into the design is a PD free fixture to interface the product while testing. The Device under test is conditioned at high voltages and then tested for partial discharge. The use of the Faraday Style Chamber as well as properly implemented grounding and power filtering to the test area provides a noise floor that is less than 1pC.

A thorough data logging process takes place to track test results while also storing information such as operator ID, test time and date, product model information, test parameters, measured values and pass/fail indication.

The compact design allows this 75kv capable system to have a minimal foot print making it easy for integration into new and existing manufacturing floors.

### Customer Benefit:

With this system product can be safely tested at high voltages and at very low partial Discharge ranges while maintaining an economic and compact design that is easily integrated into existing and new manufacturing floor plans. Test results and data logging can be used to avoid extended periods manufacturing errors as well as test product in new development.

A modular, recipe-based software design provides the customer with the tools necessary to create new tests with customized limits, allowing for quick additions of and transitions between various DUTs.



### 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 – RS232, Ethernet
- ✓ System Integration
- Other

### Special Features:

- ✓ Integration of 5kVA AC Dielectric High Voltage Test Set
- ✓ PD Floor Less Than 1pC
- ✓ Safety-Interlocked Locking Doors
- ✓ Compact Design
- ✓ Data Acquisition
- ✓ Safety Chamber Design