

ELECTRICAL SWITCHGEAR TEST SYSTEM

Brief Description:

Emerging Technologies, LLC. was called upon to provide a replacement switchgear test system. An existing test system was in place and failing due to age.

The new system was designed to make use of some of the existing hardware as well as integrate with new modern hardware. A new test application was written to include the existing functionality while adding some new features.

Due to the large size of the switchgear to be tested, the system was designed on a mobile base allowing easy transport of the test system to the device to be tested. Additionally, wireless Ethernet was employed to allow for access to the plant network while mobile.

The design package included; bill of material, mechanical diagrams, electrical diagrams, custom application specific labeling, and custom developed LabView application software.

Customer Benefit:

The customer is able to perform automated testing of a diverse set of large devices via one easy to use test system. Test reports are provided to the end user and results are stored and analyzed for yield. Cost savings were realized through the re-use of some existing hardware and through greater efficiency associated with newly added test features.

Special Features:

- Mobile Test Enclosure for Easy Transport to Switchgear.
- Kelvin Clamps for Low Resistance Measurements.
- Custom Computer Controlled AC Current Source.
- Built in Cable Hooks for Easy Large Cable Stow.
- Wireless Ethernet Access for Plant Network Data Storage.



Key Components Used:

- Valhalla 4500B uOhm Meter.
- Agilent 34401A DMM.
- Custom Designed AC Current Source.
- National Instruments LabView.
- Automation Direct Terminator I/O.

Emerging Technologies, LLC.

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 – GPIB & Ethernet
- System Integration
- Other

Customer Category:

- ✓ OEM
- Custom Equipment
- Utility
- R&D

SPECIALISTS IN TEST, MEASUREMENT, AND DATA ACQUISITION

Emerging Technologies, LLC.

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