

RECLOSER CONTROL TEST SYSTEM

Brief Description:

Emerging Technologies, LLC. was called upon to design and build an automated recloser control test system. The new system required functionality to replace an existing system and new functionality to support testing of another product model.

The new system measured high-speed trip signals via specialized high-speed counter inputs and measured voltages via analog inputs. Additionally, the test software interfaced numerous power supplies and instruments via GPIB interface to perform testing. Also, the new system included the integration of an existing first pass yield-tracking module that was previously developed by Emerging Technologies for other systems in the plant.

The new system tests functionality of the DUT based on ordered options and stores test results. Operator selectable automated or manual testing can be performed.

An existing, decommissioned, test system was provided by the customer for re-application of some of the instruments. Additional new components were provided by Emerging Technologies to complete the system.

The design package included bill of material, mechanical diagrams, electrical diagrams, and custom developed LabView 8.5.1 application software.

Customer Benefit:

The customer is able to perform testing on built to order products in a timely manner prior to shipment to the end user. Test reports are provided to the end user and results are stored and analyzed for yield.

Special Features:

- Light Curtain Protected DUT Area.
- Modular Cable Interface to DUT.
- Hand-held Barcode Scanner.
- First Pass Yield Tracking.
- Manual Testing Capability for Troubleshooting.
- Rack-mounted Industrial PC, Power Supplies, and Instruments.
- Custom Caster Cart for Mobility.



Key Components Used:

- National Instruments PCI-6224.
- National Instrument LabView 8.5.1
- Agilent 6613C Power Supplies w/GPIB.
- Agilent 34401A DMM w/GPIB.
- Agilent 33220A Signal Generator w/GPIB.
- Kepco BOP 72-3 (used w/33220A as a current source).
- Elgar CW-1251 AC Power Source.
- Rack-mount industrial PC.
- Allen-Bradley Light Curtain.

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
- System Integration
- Other

Customer Category:

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

SPECIALISTS IN TEST, MEASUREMENT, AND DATA ACQUISITION