

TEST SYSTEM CONTROL CONSOLE

Brief Description:

Emerging Technologies, LLC. was called upon to design and build a custom control console to control a medium voltage test system. The power system and DUT Fixturing was provided by the customer.

The control program was written using Microsoft Visual Basic 6. The operator starts the process by scanning the bar code on the customer part (DUT). Based on the scanned part number the system queries a user modifiable database for the required system settings. The system then prompts the operator to enable the automatically selected voltage range (4160 Vac or 2300 Vac). The system will verify the correct voltage has been enabled and then prompts the operator to begin the 43-step test sequence. The results of the operations are appended to a CSV (comma separated value) file.

The system provides test information such as; test status, select I/O indication, and test flow to the operator. The operator is required to press the sequence buttons on the cabinet to continue to the next step after operator actions are performed. Additional information is available via the computer screen under warning and fault conditions.

This system provides an automated test with operator acknowledgement yet allows the operator to perform manual operations under special analysis conditions.

Emerging Technologies integration of a variety of components specifically selected for this test system provides excellent functionality at an attractive system price.

Customer Benefit:

The customer is able to automatically test standard products and manually test non-standard products, as well as manually troubleshoot problems with the device under test using this custom test system. The results of each passed test are recorded for future reference.



Communication Highlights:

This system communicates serially via RS232 or RS485 to seven separate devices. These devices include the DUT (device under test), the three true RMS AC voltage meters, the barcode scanner, and the Opto22 Input and Output racks. The Emerging Technologies developed test software manages the communication while some devices output data continuously, some are polled as data is needed, and some are polled continuously. The communication ports and supporting settings are user configurable via a separate configuration screen activated from the main display.

Additionally, TEST PASSED information is sent vial parallel port to a customer provided Zebra label printer.

Key Components Used:

- Microsoft Visual Basic 6
- Eaton Electrical Touch Screen Computer
- Opto22 I/O
- Welch Allyn Barcode Scanner
- Durant True RMS AC Voltage Meters
- Air Conditioned Computer Console Enclosure

Emerging Technologies, LLC.

Responsibilities:

- Functional Specification Generation
- ✓ Design / Engineering
- ✓ Fabrication
- ✓ Programming – Software
- Programming – Firmware
- Field Installation
- ✓ On-Site Commissioning
- ✓ Post Commissioning Support
- Other

Technologies:

- Embedded Computers
- Microcontrollers
- ✓ Visual Software
- ✓ Control Software
- ✓ Data Acquisition
- ✓ Computer Based Control
- ✓ Communications – RS232, RS-485
- ✓ System Integration
- ✓ Other - System fab
- ✓ Other – Graphic Overlay Design

Customer Category:

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

SPECIALISTS IN TEST, MEASUREMENT, AND DATA ACQUISITION

Emerging Technologies, LLC.

PH: (920) 684-0216

www.emergingtech-llc.com