

APPLICATION BRIEF

2020

APU DISTRIBUTION PANEL TEST SYSTEM

Brief Description:

Emerging Technologies, LLC. was called upon to develop and build a custom APU Distribution Panel Tester. A basic manual design with DUT matched interface connectors for simple manual interconnection was required. The operator will connect the product to the tester and operate the product functions while watching for correct feedback on the tester.

Emerging Technologies implemented a basic strategy using current limited LEDs and a DC power supply to verify correct wiring and logical operation of the distribution panel. Additionally, the graphic overlay was designed to correspond with devices on the product while including wire identification information for troubleshooting if needed. While the majority of the tester circuitry is inherently protected through the use of current limiting resistors and LEDs (diodes), the tester includes a main fuse should a direct short exist in the product. Implementing a modular product interface connector allows this tester to be used with future variations of product.

Emerging Technologies provided, to the customer for review, a complete design package. The design package included a Bill of Materials, Schematic Diagram, and Graphic Overlay Drawing.

Customer Benefit:

The customer is able to test the functionality of the product using a simple low cost test system. The customer is able to reduce costly re-work by verifying the operation of the Distribution Panel and its internal wiring prior to installation on the final system.



ET 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
- System Integration
- ✓ Other – Modular interconnect

Special Features:

- ✓ Separate Main Power & Test Power Switches
- ✓ Modular DUT Interconnect
- ✓ DUT Aligned Labeling
- ✓ Fused Internal Power Supply
- ✓ LED Indicators for Long Life