

VACUUM INTERRUPTER RESISTANCE TEST SYSTEM

Brief Description:

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

The new system was designed to clamp the DUT in place vertically. Kelvin measurement contacts automatically move to the DUT and take four-wire resistance measurements. Modular DUT bases were designed to accommodate multiple models of DUT. Each DUT test parameter is pulled automatically from an existing database based on DUT serial number.

This system was patterned after similar systems previously provide to the customer by Emerging Technologies, LLC. Much of the system design was re-used. Unique attributes of the system were developed from scratch.

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

Customer Benefit:

The customer is able to perform automated testing of a diverse set of devices via one easy to use test system. Results are stored back to the database by serial number for tracking to the next application for the DUT. Cost savings were realized through the re-application of existing design components.

Special Features:

- Modular Automated DUT Clamping.
- Automated Kelvin Contacts for Low Resistance Measurements.
- Two-Hand Control for Operator Safety.
- Existing Serial Number Database Interface.
- Mobile Test Enclosure for Easy Transport.



Key Components Used:

- Valhalla 4500B uOhm Meter.
- National Instruments LabView Test Application.
- Custom Automated Clamping Fixture.

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

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