

APPLICATION BRIEF

2020

TIME CURRENT TEST SYSTEM WITH MOBILE CURRENT SOURCE

Brief Description

Emerging Technologies, LLC. was called upon to develop and build a custom Switchgear Time-Current (TC) test system incorporating a custom Mobile Current Source (MCS). The system was to further automate the testing process by adding additional functionality over the existing test system, enhance operator safety features, and reduce operator interaction.

The design included a custom Mobile Current Source for supplying current and gathering of TC measurements. The MCS is equipped to source current between one of three poles and automatically switching poles between tests.

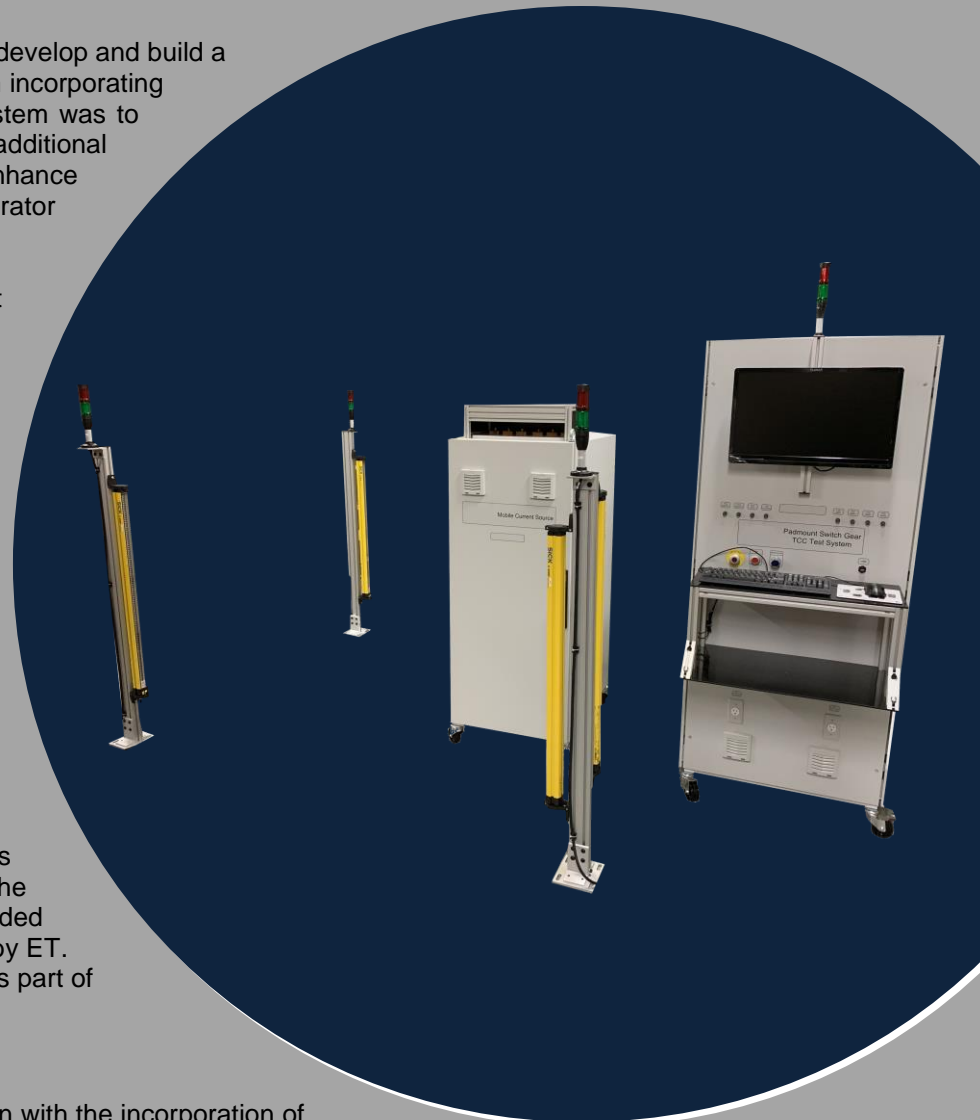
An existing LabVIEW software application was modified and updated to provide a familiar environment for the operators. Additionally, a customer supplied Switchgear control was integrated with the test system and application to allow further automation.

This system was designed to replace an existing ET system. Enhancements were made to reduce operators' risk and bring the system up to current industry standards.

The standard ET system design package was developed for customer approval and to support the ET system build effort. Components were provided by the customer as well as ordered and supplied by ET. DUTs are interfaced via special cables provided as part of the final system.

Customer Benefit:

The customer is able to reduce operator interaction with the incorporation of automated pole switching. Additional safety devices were incorporated for the customer's strict safety manufacturing environment. The customer received a fully validated, custom test system with proprietary software.



ET 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 – RS232, USB, Ethernet, Modbus
- ✓ System Integration
- Other

Special Features:

- ✓ Current Supply Ranging from 10 – 1000 Amps
- ✓ Ethernet Communications
- ✓ Collects and Analyzes TC Measurements
- ✓ Design Evolution of Existing System.
- ✓ System Safety Circuit Hardware
- ✓ Automatic Switching Between up to 3 Poles
- ✓ Test Results Stored in Customer Database
- ✓ Automatic Report Generation