

APPLICATION BRIEF

2020

PRE CALIBRATION ADJUSTMENT SYSTEM

Brief Description:

Emerging Technologies, LLC. was called upon to support development of a system to manually adjust, potentiometer biased, application signals prior to running calibration on a customer device.

Each user device is a populated PCB with unique characteristics. Variations in specification of a specific combination of components on the PCB require adjustment of three key signals while supplying known stimulus to prepare for accurate calibration of the product, via a separate tester.

Emerging Technologies worked together with another vendor to custom design equipment, controls, and instruments to provide a solution that was able to accommodate multiple product ranges within the customer's new product line.

Custom hardwired interlocks were implemented to protect the operator, the product, and the equipment.

Also, the system was designed with the idea of future growth in mind. Additional panel space was allocated for hardware required in the event additional product ranges planned for the future come to fruition. Components were selected to handle the increased requirements of the potential future products where possible.

Emerging Technologies provided electrical and control design support. Design reviews were conducted at the supplier's facility and the customer site. On site verification at the supplier site and at the customer site were included as part of this application. Additional training and follow up support were provided at the customer site as well.

Customer Benefit:

The customer used this Pre Calibration Adjustment System to prepare product for calibration on a separate tester. This allowed the customer to prepare product for calibration while previously prepared product was in calibration on the calibration test set. Also, the customer was able to prepare different ranges of product than those currently under calibration.

A single operator could safely and efficiently prepare unique PCBs for calibration in a short period of time without tying up the calibration equipment.



ET Responsibilities:

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

Technologies:

- Embedded Computers
- Microcontrollers
- Visual Software
- Control Software
- Data Acquisition
- Computer Based Control
- Communications
- System Integration
- ✓ Other – Hard-wired Logic

Customer Category:

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