

APPLICATION BRIEF  
2020

## 1,100 AMP VARIABLE MOBILE AC CURRENT SOURCE

**Brief Description:**

Emerging Technologies, LLC has been called upon, on numerous occasions, to provide an AC current source as part of a test system design. This particular current source required 1,100 amps with a minimum compliance voltage of 4VAC.

The system was designed with a custom wound transformer to provide a current loop of up to 1,100 amps AC to route through a customer device for the purpose of functionally testing their product. This source was provided as an accessory to the custom functional test system also provided by Emerging Technologies, LLC.

This system includes improvement over other systems previously designed and deployed by Emerging Technologies, LLC. Based on experience, this style of current source has been developed to move the hardware out of the functional test platform as a separate replaceable and interchangeable power unit.

Custom tailoring of current sources of this nature requires developing an understanding of the customer device load and product test specifications to ensure the current source will be capable of driving the specified current into the specified load for the required timeframe via reasonably sized interconnect cabling and/or fixturing.

**Customer Benefit:**

Cost savings were realized through the evolution of an existing design to develop a purpose-built AC Current Source with the capability to run current-based tests where no feasible off the shelf solution was available.

**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 – GPIB
- System Integration
- Other

**Special Features:**

- ✓ Mobile Test Enclosure for Easy Transport.
- ✓ Remote Computer Interface Port.
- ✓ Integral High Current Output Disable Contactors.
- ✓ Internal Current Feedback CT.
- ✓ Heli-coil Reinforced High Current Lugs.
- ✓ Custom Wound Transformer