

APPLICATION BRIEF

2020

OEM RELAY INTERFACE BOARD

Brief Description:

Emerging Technologies, LLC. was called upon to develop a circuit board that would interface TTL level control outputs with 24VDC field hardware. Additionally, field inputs and discrete communication points were to be routed through the interface.

The interface is used in a multi-servo based control system. Each servo controller has I/O. The field I/O and each of the servo controllers are interfaced via the PCB.

The PCB interface was designed to perform the required functionality while enhancing the integrity of the system with fewer hand terminated wire connections. Assembly time is reduced due to the use of DIN rail mounting clips and modular connectors. Future maintenance requiring the removal and replacement of the interface will be efficient and limit the opportunity to incorrectly re-wire the machine. The relays utilize sockets for easy replacement. The PCB silkscreen indicates the component IDs reducing labeling requirements during installation and adding permanent clarity for maintenance.

Emerging Technologies developed the printed circuit board layout for review by the customer, procured the components, and assembled and tested the interface. After proving the interface in the field additional interfaces are provided for each machine built.

Customer Benefit:

The OEM customer was able to reduce assembly time of the machines while adding integrity to the installation. Overall savings come from the use of less expensive, application specific components, as well as reducing assembly time.



ET Responsibilities:

- Functional Specification Generation
- ✓ Design / Engineering
- ✓ Fabrication
- Programming – Software
- Programming – Firmware
- Field Installation
- On-Site Commissioning
- Post Commissioning Support
- ✓ Other – contract manufacturing

Technologies:

- Embedded Computers
- Microcontrollers
- Visual Software
- Control Software
- Data Acquisition
- Computer Based Control
- Communications
- ✓ Integration
- ✓ Other – PCB layout

Customer Category:

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