

SUCCESS STORY



Distribution Hub Upgrade

Leading Material Handling Company

Cates Control Systems worked with the customer to develop a plan to bring all of their control panels into compliance with the customer's latest standard. The customer's goal was to increase the hub's throughput, reduce downtime and reduce costs.



BUSINESS NEED

The customer needed a turnkey solution to upgrade the distribution control system (PLCs, VFDs, safety, and visualization) to current control standards. The startups for the new systems had to be completed in a 2-day window on weekends to avoid disrupting operations.

OUR SOLUTION

Cates Control Systems provided engineering and panels, and managed the entire project. Our approach was to design and integrate the complete controls hardware and software system without disrupting operations, as well as improving supportability and delivering a quick ROI for the customer.

The solution involved:

- Replacing or retrofitting 80 control panels
- Converting the older Allen-Bradley PowerFlex® 40 VFDs and motor contactors to new IP-based PowerFlex® 525 VFDs using Automatic Device Configuration (ADC)
- Converting all DeviceNet® and ControlNet® networks to Ethernet
- Creating new local HMIs for increased diagnostic visualization
- Removing all obsolete Allen-Bradley PLC-5® based hardware
- Installing and commissioning new control panels, field sensors, and associated conduit/wiring

- Designing new panels from incomplete original drawing sets
- Field-verifying motors, I/O and circuits
- Upgrading the hub's centralized visualization in FactoryTalk® SE

During each 2-day startup, we had to demolish old VFDs, install and wire new VFDs, make final terminations, verify I/O, debug software, complete sort test runs, and manage contractors to the tight schedule.

CUSTOMER RESULTS

The solution provided by Cates Control Systems:

- Increased distribution hub throughput
- Reduced downtime due to the replacement of old, obsolete equipment more prone to failures
- Reduced energy cost through the use of more energy-efficient equipment
- Reduced staffing costs by enabling fewer engineers to remotely monitor and maintain multiple hubs

Need help with a control panel upgrade or other automation project? Contact us for an estimate.



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PowerFlex 40 Drive Updates

Leading Material Handling Company

The customer was experiencing frequent downtime, and needed assistance troubleshooting and resolving issues with PowerFlex® 40 Drives with DeviceNet® communication. We worked with the customer to successfully resolve the issues.



BUSINESS NEED

The customer was facing frequent downtime related to issues with PowerFlex 40 Drives featuring DeviceNet communication. The Cates Technical Services team was awarded a contract to inspect, validate and correct approximately 15 PLC/Motor Control Panels to resolve the PowerFlex 40 Drive failures.

OUR SOLUTION

The solution provided by Cates Control Systems involved:

- **Correcting** multiple wiring connections and terminations
- **Validating** the DeviceNet network configuration and performance
- **Resolving** the main reason for the Drive failures
- **Updating** the PLC/Motor Control Panel CAD drawings to the current "AS-BUILT" state

CUSTOMER RESULTS

The Cates Technical Services team deployed, and methodically and successfully resolved each of the PowerFlex 40 Drive failure issues for the customer — greatly reducing unplanned downtime.

Need help upgrading legacy drives or other PLC control system hardware? Contact us for an estimate.



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Voltage Monitor Circuit Integration

Leading Material Handling Company

The customer needed assistance resolving power fluctuation issues that were damaging expensive control system hardware and causing unplanned downtime. We worked with the customer to successfully resolve the issues.



BUSINESS NEED

The customer was facing problems caused by power related issues. Each time the plant experienced a voltage fluctuation issue, valuable PLC hardware and control system components were damaged, resulting in several hours of downtime to correct and replace the damaged hardware.

OUR SOLUTION

The Cates team designed, installed, and configured a voltage monitor circuit for each PLC/Motor Control Panel to protect the expensive PLC hardware and control system components. All 70 PLC/Motor Control Panels were completed over several weekends and the overall project was completed ahead of schedule.

CUSTOMER RESULTS

The Cates team successfully resolved the problem for the customer by integrating a voltage monitor circuit in each of the 70 PLC/Motor Control Panels. These voltage monitor circuits are an inexpensive solution to protect the expensive PLC hardware and other control system components in the event of a power fluctuation related issue.

Customer quote to Cates Control Systems: "Remember the pain in the butt we had installing these voltage monitors? They just saved the building." Customer Maintenance Ticket Description – Voltage monitors around the facility began to trip and upon checking the incoming voltage at the switch gear, it was identified the facility did not have enough incoming power.

Need help resolving an issue threatening the uptime of your plant? Contact us for an estimate.



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