CONTROL MASTERS, INCORPORATED

CONTROL SYSTEM INTEGRATION

5235 KATRINE AVENUE
DOWNERS GROVE, IL 60515

PH. 630.968.2390
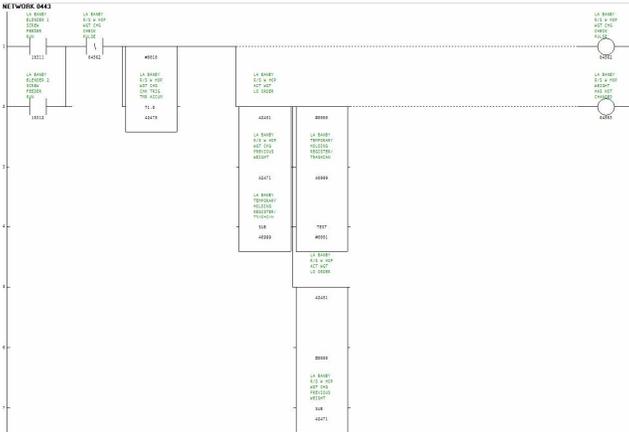FX. 630.968.3260
HTTP://WWW.CONTROLMASTERS.COM

Control Masters Application Case Study

Continuous Feeder Integration

Technologies
Continuous Process Control
Acrison/Thayer Feeder Control
Material Handling

Services Provided
PLC Integration
Feeder Control Integration
SCADA / HMI Integration

Project Description

This project consisted of adding additional material handling and feeder control to two existing compounding extruder lines. This project allowed the customer to produce additional product types that they were unable to previously provide.

This project included adding PLC logic for two truck unload systems for the new base ingredients that are stored in Silos; Dense Phase conveying systems to move these products from the silos to feed bins; two new feeders for each extruder line (One line using Acrison and one line using Thayer); formulation modifications to incorporate these ingredients into the process; and all associated HMI/MMI screens to provide operator feedback, formulation entry and operation.

The existing systems consisted of a total of four Modicon Quantum 434 PLC's, 4 GE Fanuc QuickPanels and 3 Factorylink Operator Interfaces. Two PLC's are setup in a Hot Standby configuration and are used for material transfer from truck to silos and ultimately to feed bins for each line. One PLC is used for each extruder line and handles the control of the feed bin discharge, feeder control, mixer control and formulation.

The GE QuickPanels are used at the Mixer station for each line and provide operator control for adding the new ingredients to the mix process and at the packaging stations for each extruder line. The Factorylink Operator Interfaces are used for the material transfer system setup and operation and at each extruder line for formula setup and feeder/extruder operation.

The result of this project allowed the customer to provide additional product types while utilizing as much existing equipment as possible. At the same time, they were able to maintain proper product specifications, quality and safety.