Servo Controlled Box Centering Conveyor

Challenge

John Henry Foster Company was asked to provide a control system to automatically center various sized boxes on a conveyor and then position inkjet print heads within a specified distance from the box edge. After positioning, the print heads were to be triggered as the box passed. All positioning to be done without stopping the box, which had never been accomplished previously.

Goals

- Design an innovative system to perform all measurements and positioning without stopping the box or the conveyor.
- Present boxes square to the print heads.
- Precisely position print heads along edge of boxes.

System Features

- Allen Bradley ControlLogix PLC for Sequence Control
- Allen Bradley Servo Drives
- SERCOS Communications
- Panelview Operator Interface
- SICK Precision Laser Distance Sensors
- JHF Startup Assistance in England

Project Successes

- Accurately positioned boxes on conveyor and sustained optimum print quality on each box
- Measurement and positioning completed without stopping conveyor or box
- No need to stock boxes for individual products. Unprinted boxes are printed on packaging line, decreasing inventory costs associated with packaging.

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