

Unwinder Monitoring System

Challenge

John Henry Foster Company was asked to provide a control system to monitor the roll diameter of a paper unwinding machine. If the paper roll completely unwinds, the entire plant shuts down for lack of material. To minimize this risk, operators currently operate the machine manually during the last 10-15 minutes of every roll, ensuring it does not run out unexpectedly.

Goals

- Automatically monitor roll diameter
- Alert operator when it is time for a roll change
- Shut down line if roll gets too low

System Features

- Smart relay (Micro PLC) control system
- Minimal installation requirements
- Automatic/manual operation of unwinder
- Precise photoelectric sensor for roll diameter detection
- Visual and Audible warning systems

Project Successes

- Accurate to only a few wraps of paper left on roll
- Less than one minute of operator time now required for roll change
- Accurate warning system if roll gets too empty, eliminating the risk of running out of paper and shutting down plant

