# 30 encoders later, **carrier belts** stay on track

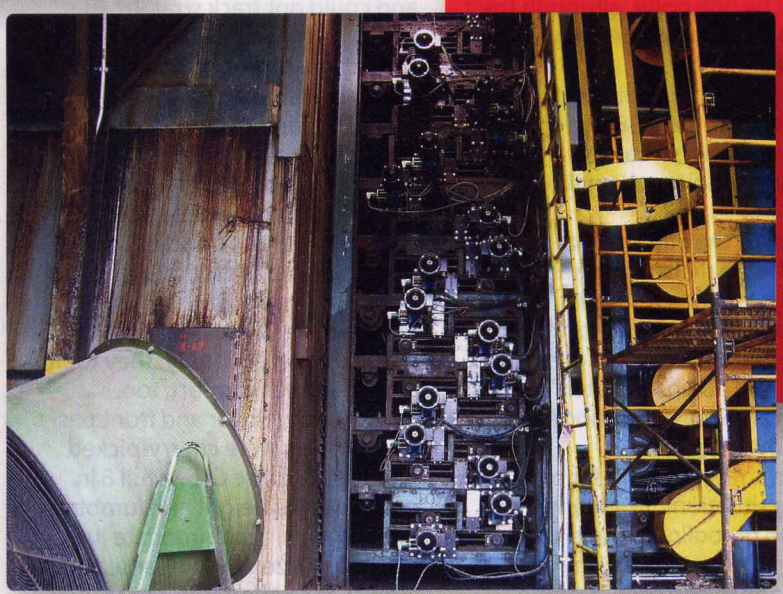
Optical encoders working over a DeviceNet network let a paperboard mill automate the positioning and tensioning of conveyor belts.

**Chicago Electric,** *www.chicagoelectric.com*
**Circle 406**
**Fraba Inc.,** *www.fraba.com*
**Circle 407**

At the Aurora, Ill. mill operated by **Rock-Tenn Co.,** each of 10, 170-in.-wide wire mesh carrier belts ferry binder board through a 240°F dryer. The belts tend to wander toward the side of the conveyor frame and rub against the frame if they are not periodically recentered. To automate the positioning and tensioning of the belts, **Chicago Electric,** Carol Stream, Ill., put a **Fraba Inc.** (Hamilton, N.J.) Optocode (OCD) DeviceNet encoder and a half-horsepower **Marathon** ac motor on each of the 30 axes. The installation was economical partly because one DeviceNet card handled all of the high-resolution, absolute encoders. Control was via **Control Techniques'** (Eden Prairie, Minn.) half-horsepower ac vector drives run from an **Allen-Bradley** Control/Logix PLC and a touchscreen.

Using DeviceNet encoders and relatively inexpensive drives, motors, and a PLC kept Chicago Electric's quote at just under $200,000. A more-typical system with servo or stepper technology and separate interface cards for each of the 30 encoders would have cost as much as 50% more.

Each OCD absolute encoder uses an integrated Opto-ASIC that provides up to 30-bit multiturn resolution and can withstand the heat near the dryer. At Aurora, the fully automated closed-loop system for positioning the belts replaced a completely manual process. If a belt slackens, a worker taps a button on the touch screen to take up the slack. **MD**



**Visible in this view of the carrier system are some of the motors and adjusters in place at the Rock-Tenn papermill. Each motor employs a Fraba DeviceNet encoder for feedback.**