

Customer Requirement:

Material presence detection in industrial lathes used for precision part machining

Banner Solution:

SureCross[®] DX80 FlexPower[®] Gateway,
SureCross[®] DX80 FlexPower[®] Node

Why Banner?

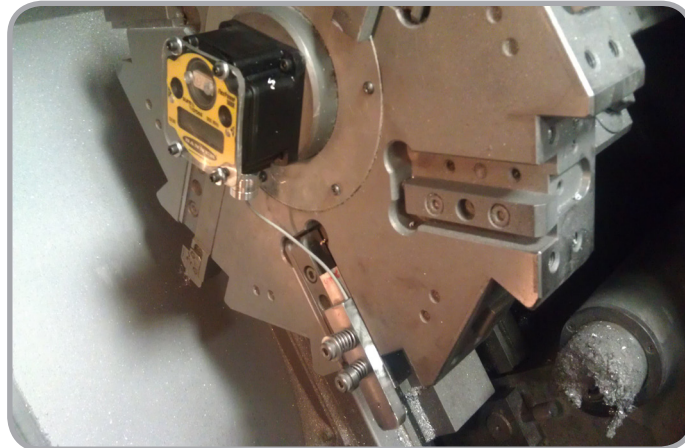
Complete Wireless Operation – Battery powered Node and sensor communicate wirelessly to remotely located Gateway

Affordability – Solution adapted to machinery and was cost competitive with more complicated solutions

Customer Benefits:

Improved Performance – Consistent presence detection reduced tooling damage and increased throughput

Banner Wireless Enables Presence Detection on Rotating Lathe Turret



SureCross[®] DX80 FlexPower[®] Node and third-party inductive proximity sensor deployed onto rotating industrial lathe turret

Background

Betty Machine has been meeting and exceeding customer expectations in the manufacture of precision machine parts, CNC and screw machine products for over 60 Years. Attention to detail, accuracy and consistency are fundamentals embedded into the culture and processes established by Betty Machine.

Challenge

Precision machinery, an expert staff and high-quality raw materials are integral to the production processes at Betty Machine. As material is loaded into a lathe, the operator validates its position and alignment to prevent tooling damage, material loss and production slowdowns. Betty Machine wanted to improve process efficiency by automating this process. The solution would have to perform reliably despite machine vibration, moving components and airborne debris.

Solution

Betty Machine chose the SureCross[®] DX80 FlexPower[®] wireless network from Banner Engineering. This versatile, highly-scalable solution is built around a Gateway capable of two-way communication with multiple end-point Nodes.

A single Node with an inductive proximity sensor was secured to the lathe turret. The open design of the Node made it easy to integrate a third-party sensor into the application. The IP67 rated enclosure and an added polycarbonate shield provided protection from flying debris. An internal 3.6V lithium battery supplied power to the Node and the sensor. Because the solution is completely wireless, movement of the turret was unrestricted by the addition of the Node and sensor.

The proximity sensor detects material presence and position. This information is communicated to the connected Node and transmitted to the remote Gateway. The operator receives a pass or fail signal dependent upon material presence or absence. The Gateway centralized data collection for Betty Machine and provided reliable two-way communication between the operator and the sensors.



SureCross DX80 FlexPower Node & Gateway

SureCross DX80 Features:

- Expandable network enables one Gateway to support up to 47 Nodes
- Operates using 10-30V dc, 3.6V lithium D cell batteries or solar power
- Reliable data transmission via FHSS technology and TDMA control architecture
- Bi-directional communication between the Gateway and Nodes with fully acknowledged data transmission

Learn More:

Visit www.bannerengineering.com for product information and to locate a distributor

- [SureCross Gateways overview](#)
- [SureCross FlexPower Nodes overview](#)