

Customer

A material supplier to the die casting industry

Customer Requirement

Reliable communication between proximity switches and control panel

Banner Solution

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

Why Banner?

Wireless Connectivity – Communication between devices over 900 MHz wireless network eliminated the need for cable runs

Ease of Installation – Nodes and Gateway adapted to the robots and control system

Customer Benefits

Improved Productivity – Reduced repair, expenses and downtime resulted in a savings of over \$100,000 per month



SureCross DX80 Features

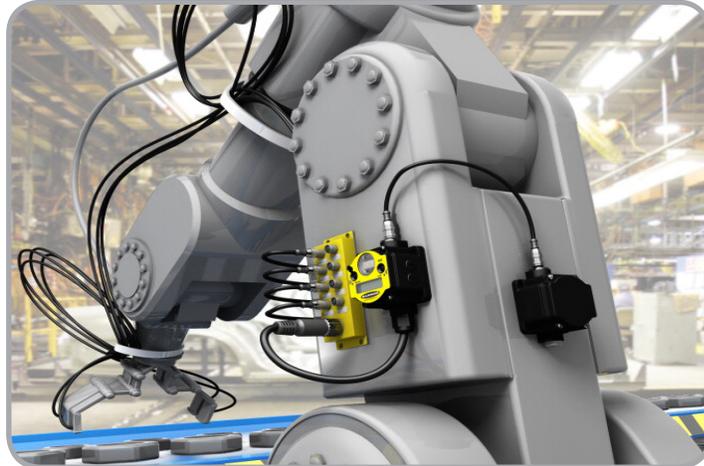
- Four selectable discrete inputs and four NMOS discrete outputs
- Reliable data transmission via FHSS technology and TDMA control architecture
- Fully acknowledged data transmission
- One Gateway supports up to 47 Nodes

Learn More

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

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

Banner Wireless Reduces Downtime, Saves \$100,000 per Month in Lost Productivity



SureCross[®] DX80 FlexPower[®] Node connected to four inductive proximity switches which detect gripper position on robotic end effector

Background

A producer of stainless steel and special alloys supplies billets, blooms and ingots to the metal casting industry. During production, articulating robots are used to handle magnesium billets. Proximity switches located on the end effectors of the robots communicate status information from the grippers to a control panel.

Challenge

Robotic cables had been used to connect the proximity switches to the control panel. Environmental challenges and the motion of the robot compromised the integrity of the cables. Breaks were quite frequent and production had to be halted for repair and replacement, pushing up costs and driving down productivity.

Solution

Banner's SureCross[®] DX80 wireless network was chosen to replace the cables. The network is built around a Gateway capable of two-way communication with multiple end-point Nodes. It operates on the 900 MHz frequency band for robust communication across distances and through obstructions. Frequency Hopping Spread Spectrum (FHSS) technology and Time Division Multiple Access (TDMA) control architecture ensures reliable data delivery between devices.

A SureCross DX80 FlexPower Node is installed on each of the company's 15 robots. Each node is connected to four inductive proximity switches near the end effector. The switches detect gripper position and communicate it to the Node. The Node transmits this information to the SureCross DX80 Gateway located at the control panel. An internal 3.6V lithium battery powers the Node and the switches.

By deploying a SureCross DX80 wireless network, the company eliminated the need for long cable runs between the proximity switches and the control panel. Downtime and repair and replacement expenses were significantly decreased. The combination of reduced expenses and increased productivity allowed the company to save over \$100,000 each month.