

# Coal Delivery SCADA System Uses Serial Radio Modems



**Industry: Mining, Power and Energy**  
**Product: 900MHz Long Range Radio Modem**

## • The Challenge

A power generating plant in the north central United States uses multiple mobile platforms to convey its coal supply from the railroad delivery point to the storage lot. The coal handling process was monitored and controlled via wired connections. Because the local control systems moved on a rail, the data cables were frequently disconnected from the SCADA system, stalling the operation, and causing costly downtime.

## • The Solution

To eliminate recurring service interruptions, cable runs were replaced with 900 MHz, serial radio modems with Class1 Div2 UL certifications. A “master” radio modem was installed at the control center’s SCADA system. Additional radio modems were connected to each PLC on the conveyor platform. Because the system operates transparently, the PLCs did not require reconfiguration and the transition of the controls from a wired to a wireless system was seamless.



## • Why B&B Electronics?

- Ability to tie in serial ports of multiple PLCs to the central SCADA system with Modbus data format over license-free proprietary RF network
- Ability to survive harsh seasonal weather because of its -40 to 85°C wide temperature ratings
- Class 1, Div 2 hazardous location certification
- The 256-bit AES encryption ensures data integrity and network protection from hackers

## • The Product

**Zlinx® Model ZP9D-115RM-LR** – 900MHz, Long Range, Industrial Grade Radio Modem

- 40 mile radio range
- Frequency: ISM band, 902 to 928 MHz
- 3dBi RPSMA male dipole, antenna included
- -40 to 85°C wide temperature - for indoor and outdoor applications
- Power supply redundancy and versatility: 10 to 48 VDC or 24 VAC
- Rugged circuitry & heavy-duty DIN mount case saves panel/cabinet space
- Class 1 Div 2, 256-bit encryption



**ZLINX®**  
Radio Modem

Model ZP9D-115RM-LR