



Upgraded compressor protection system meets Class I, Div. 2 and SIL standards

Highlights

- Xenon Inc. upgraded a compressor control system for an oil and gas industry customer.
- The original control system was outdated, and the new system needed to meet Class I, Division 2 and SIL-rated standards.
- Xenon Inc. trusted Phoenix Contact components to ensure efficiency and safety.

Customer profile

Xenon Inc. is a full-service engineering, integration, and field service solutions provider for Process and Environmental Analytics, Industrial Instrumentation and Automation, and Electrical Systems. Xenon's clients include Oil and Gas companies, power generation facilities, and industrial plants. With a full range of custom engineered solutions, Xenon provides clients with turnkey support for difficult applications.

Challenge: Outdated compressor requires new technology

In the Oil and Gas industry, refineries use compressors to increase the pressure of a gas by reducing its volume. This makes it easier for the gas to travel through a pipeline. However, many compressor control systems were installed years ago and need upgrades to comply with newer standards.



Figure 1: Xenon provides clients with turnkey support for difficult applications.

Xenon Inc. recently undertook a project to replace a customer's dated compressor control cabinets with a new system that would meet Class I, Division 2 and SIL-rated standards.

“ We like working with Phoenix Contact because we get good technical support. ”
Jordan Wiens



Figure 2: The QUINT Power ensures superior system availability.

“In this application, we’re upgrading the compressor control, based on equipment obsolescence, and bringing the equipment and instrumentation up to modern standards,” said Jordan Wiens, P.E., the Managing Partner for Xenon’s Instrumentation & Automation Division.

Solution: Reliability within the cabinet

Compressor control systems are critical, so the end customer cannot afford to have the system fail. Xenon used a variety of Phoenix Contact components to ensure the highest quality.

“We selected the QUINT power supplies based on equipment reliability, the preference from our engineers, and the availability of the Class I, Division 2 certification,” Wiens explained.

The premium QUINT power supply line ensures superior system availability. The unique selective fuse-breaking (SFB) technology and preventive function monitoring increase the system’s reliability.

In addition to Class I, Division 2 certification, the system also needed to meet Safety Integrity Level (SIL) 3. Phoenix Contact offers a variety of safety relays with force-guided contacts for safe shutdowns in the process industry.

“This compressor protection system is a safety instrumented system,” Wiens said. “And in order to meet the qualifications of a safety instrumented system, we selected the Phoenix Contact SIL-rated relays.”

Xenon protected the sensitive downstream equipment with Phoenix Contact Class I, Division 2 surge protectors, and also used circuit breakers within the cabinet. Wiens said, “We selected the

Phoenix Contact circuit breakers because they’re easily bayed together, and they provide circuit protection for all of the AC equipment within the panel.”

The application also included Phoenix Contact distribution blocks and fuse blocks “simply because it’s an industry standard. They’re easy. The selection is available, and we have the stock,” Wiens stated.

Results: Reliability and service

Xenon trusts Phoenix Contact for its product reliability and personalized technical service.

“We like working with Phoenix Contact because we get good technical support. We have a good sales support staff, and their products are typically available at a good price,” Wiens concluded.



Figure 3: Safety relays with force-guided contacts are SIL-certified.



Figure 4: Circuit breakers protect the AC equipment within the panel.