INTRODUCTION
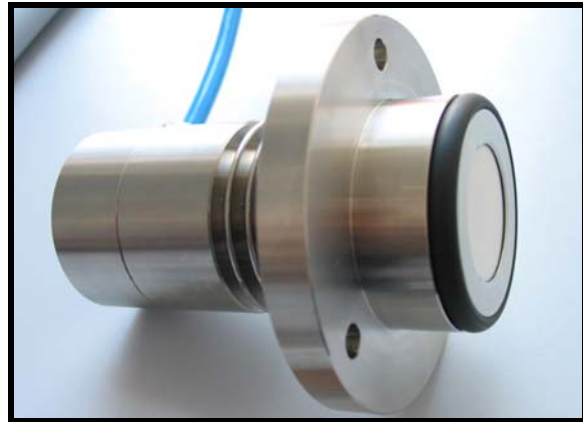
The ATEX Explo Sentinel Analog Detection and Control System is the next generation of reliable explosion detection systems designed to analyze and respond to the dynamic effects of an explosion while eliminating the unwanted response to small process interrupts. Static Pressure Detectors have been successfully detecting explosions and protecting industry for many years. But they could not distinguish actual explosion pressure rises and normal process upsets. The first generation Atex analog system provide differential benefits in a single unit. Our next challenge was to protect against product impingement alarms and system releases. The ATEX Explo Sentinel provides a unitized programmable sensor in a single cost effective package to further protect processes from environmental false alarms and product impingement. The simplified user analysis software
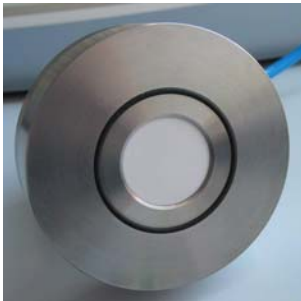
makes system maintenance and operation possible for qualified technicians with the minimum of computer experience. The ATEX hand held analyzer optional with each system is an operational cost saving measure for system users eliminating the need for expensive notebook computers in an unfriendly environment.

CONCEPT

When a sensor detects a pressure increase from a deflagration either in an associated vessel or connecting ductwork, it analyzes the signal, determines if it fits the parameters associated with an explosion and sends a signal to the system controller. Depending on the system design the unit can wait for a confirming signal, or require three sensors to vote increasing system reliability. The controller provides the system power and control integration functions. On receiving a discharge signal the unit can activate the Dry Chemical or Hot Water Suppressors, integrate process control, and notify operations personnel of the event. The RS232 optional modem interface will provide real time communications with ATEX factory technicians for programming diagnostics.

BENEFITS

√   Analog response for false alarm prevention.
√   Single unitized format for strategic unit placement in smaller systems with product impingement potentials.
√   Simplified programming software.
√   Single, Anded or Voting logic levels for increased performance and reliability.
√   Remote Maintenance for Factory Consultation and Diagnostics over communications wires.

DESCRIPTION

Sensors placed into the vessel and/or ductwork sense an explosion by analyzing the pressure created by the deflagration. The unique ATEX detectors provide programmable pressure sensor response for each protected area on an individual basis depending on process operation

needs. The unit is fully programmable for rate of explosion increase and a fixed setting by each sensor element. The ability to sense a deflagration's growth provides increased speed of response to an actual event while limiting the units ability to respond to a false slow pressure growth event. Also during an event the sensor memory records the pressure history for review. This valuable tool can pinpoint the sequence of events leading up to the problem saving the user cost and downtime. Up to the development of analog sensor technology an event was a mystery which usually meant user beware. Now, technology pinpoints the cause of release

saving user cost if a system component malfunctions.

After detection of a deflagration, a signal is sent to the system controller for processing. The ATEX controllers are multifunctional devices designed to meet the needs of small as well as large protection systems. They can provide power to operate ATEX Isolation Gates and Explo Guard HRD or HWA suppressors.

Optionally the controller can be programmed to function on an individual basis, anded for protection against false process conditions or in a voting mode to provide increase reliability while offering protection against process upsets. For instance in a process with a knife gate isolation system the unit can be provided in a single response mode. In a dust collector for suppression the unit may be programmed to require two sensors for response to verify decision making by the system. And in a spray dryer where volumes can be very large the units can be programmed to vote on response providing increase reliability and verification on a simultaneous basis. The Atex system meets the most rigid protection demands while providing a cost effective system, easily maintained by plant personnel increasing productivity and lowering downtime. International codes require multiple system inspections per year. The ATEX Explo Sentinel Analog Detection and Control System provides RS 232 communications for system service. By using the optional ATEX remote modem the user can solicit factory response over standard communication lines for software programming analysis and service.

ATEX Explosion Protection. L.P.

Remote Computer Diagnostics for Quick Assistance and Low Operational Costs

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