

MSA Gas Detection: Analyzer Shelter Confined Space Entry Applications



Situation

Process analyzers are often located within climate-controlled analyzer shelters that protect equipment and personnel from natural elements: rain, snow, wind, dust, and direct sun. Process analyzers may also need shelter from harsh operating plant environments that may include corrosive, potentially toxic and explosive atmospheres, dust, and vibration. Analyzer shelters offer such protection, allowing process operators and technicians to operate and perform maintenance and system checks.

By design, analyzer shelters are enclosed, creating confined spaces with potentially hazardous atmospheres due to gas emissions from analytical equipment and the calibration gases used in their routine maintenance. Potential hazards are also determined by the process streams delivered as well as by facility ventilation systems.

The following three hazards are common to confined spaces within analyzer shelters such as refineries and chemical plants:

- Nitrogen and other inert gases used for instrumentation and analyzers such as Continuous Emission Monitoring Systems (CEMS) and gas chromatographs can leak into confined space areas. High-pressure nitrogen stored in cylinders, tanks or instrument lines rapidly expands upon release and displaces oxygen within confined spaces.
- Toxic gas leaks such as hydrogen sulfide and other gases emitted from process units or calibration cylinders pose potential threats to personnel working inside.
- Combustible gases such as petroleum vapors emitted from process units, or leaks from methane and hydrogen calibration and carrier-gas cylinders may rise to hazardous levels.

Solution

Ultima® X Series Gas Monitors with X3® Technology simultaneously monitor for oxygen, combustible gases (using both infrared and catalytic bead sensors), and hydrogen sulfide.

- Ideal for analyzer and CEMS shelters, operator shelters, electrical control rooms (ECRs), switchgear or power distribution buildings, plant ducts, and control rooms.
- Transmitter with horn and strobe is mounted on outside, alerting personnel to hazards inside shelter before entry.

Product Description

Ultima X Series Gas Monitors with X3 Technology offer multiple-point sensing, remote sensor mounting, and Modbus output using any combination of electrochemical, catalytic, and infrared type sensors. Patented sensor disconnect-under-power feature allows all sensors to be replaced in hazardous areas without area declassification. Other features include:

- 316 stainless steel enclosure or plastic (NEMA 4X-rated) enclosures
- Each sensor can be remoted up to 3000ft. from the monitor
- Explosion-proof monitoring is ideal for petrochemical, oil and gas industries
- Interchangeable smart sensors are recognized, triggering automatic alarm and relay setting reconfiguration
- Display alternates between sensor reading and gas type with scrolling diagnostic messaging
- Single electronics board
- Onboard LEDs and relays for increased indication of alarm and fault conditions
- Field-programmable local alarm levels
- Energized/de-energized and latching/non-latching relay functions for three levels of alarm and fault



Note: This Bulletin contains only a general description of the products shown. While uses and performance capabilities are described, under no circumstances shall the products be used by untrained or unqualified individuals and not until the product instructions including any warnings or cautions provided have been thoroughly read and understood. Only they contain the complete and detailed information concerning proper use and care of these products.



ID 07-2166-MC / Nov 2008
© MSA 2008 Printed in U.S.A.

Corporate Headquarters
P.O. Box 426, Pittsburgh, PA 15230 USA
Phone 412-967-3000
www.MSAnet.com

U.S. Customer Service Center
Phone 1-800-MSA-2222
Fax 1-800-967-0398

MSA Canada
Phone 1-800-967-2222
Fax 1-800-967-0398

MSA Mexico
Phone 01 442 227 3900
Fax 01 442 227 3943

MSA International
Phone 412-967-3354
FAX 412-967-3451

Offices and representatives worldwide

For further information:

MSA
The Safety Company