SENSIDYNE®

Industrial Health & Safety Instrumentation

Critical Gas Detection for Users and Bottlers of Acetylene Gas

SENSALERT® ASI

+ Detection at every point.

SENSALERT® ASI

Advanced Safety Integrity – The best solution for Acetylene gas detection in critical safety applications.

Top: SensAlert ASI transmitter shown with Acetylene sensor.

Below: Sensidyne aspirator

SensAlert ASI provides enhanced protection and dependability for critical safety applications where personnel, processes, and facilities are at risk. The third-party certified SIL-2 SensAlert ASI offers dependability and versatility while remaining the easiest to install, commission, operate, and maintain.

Critical Protection with Global Approval

SensAlert ASI is certified to IEC61508 Level 2 (SIL-2) for both hardware and software with certification to global hazardous (classified) area and performance standards including but not limited to FM, CSA and ATEX / CE Mark. Advanced sensor diagnostics provide sensor status information including predicted life and exposure history.

Unmatched Application Versatility

SensAlert ASI is a universal instrument platform for toxic and combustible gas detection and oxygen deficiency monitoring. Intrinsically safe or explosion proof installation configurations with options for remote sensors and gassing, duct mount, and sample-draw maximize the solution capabilities. The sensor head accepts all Plus Series sensor technologies – infrared, catalytic bead, and electro-chemical, including the new Infrared Acetylene sensor. Assignable and configurable relays together with communication options provide broad flexibility. The SensAlert ASI I.S. sensor head can be remote mounted up to 100 feet (30m) from the transmitter providing a useful option to position the sensor closer to the potential hazard.

Easy to Install, Commission, Operate, and Maintain

SensAlert ASI accepts all SensAlert PLUS gas and sensor types and provides vertical or horizontal installation options with removable plug-type terminal blocks to simplify wiring. The Intrinsically Safe sensor head enables swapping sensors without a hot work permit, or declassifying the area or removing power from the instrument. Transportable calibration means all new Sensors are shipped calibrated and ready to install. An optional Sensor Calibration & Exchange Program schedules delivery of factory calibrated sensors to the user's plant or facility for a savings on maintenance and supply costs.

Detection at every point.

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Acetylene Gas Hazards

Acetylene is a colorless and highly flammable gas that becomes explosive when liquefied, compressed, heated, or mixed with air. The 2.5% by volume Lower Explosive Limit (LEL) and the 100% by volume Upper Explosive Limit (UEL) make this gas extremely hazardous. Significant danger exists to workers, processes, and facilities due to methods of Acetylene production, cylinder charging, storage, and use. Acetylene becomes unstable above 25 psi and can explode without an ignition source. As a result, cylinder charging plants are highly regulated by Code, Standard [1], and Regulation [2] (law).

The latest revision to NFPA 51A requires optical flame detection: 3.3.xx "Fast Acting Detection System designed to detect a fire more rapidly than standard smoke or heat detectors. Examples for outdoor installations are optical (UV/IR) systems that detect visible flames, etc."

NFPA 51A calls out a listed and approved Gas Detection System for Acetylene. The specified Alarm levels are 25% LEL and 50% LEL. The first alarm will have audible and visual annunciation and activate the mechanical ventilation. The high alarm shall shutdown the gas generation system. A gas detection system failure (Fault) will activate ventilation and shutdown gas generation. A SIL 2 gas detection system such as SensAlert ASI is desirable based on highest reliability and lowest failure rates.

[1] NFPA® 51A, Standard for Acetylene Cylinder Charging Plants, 2012 Edition
[2] 29 CFR 1910.102, Acetylene

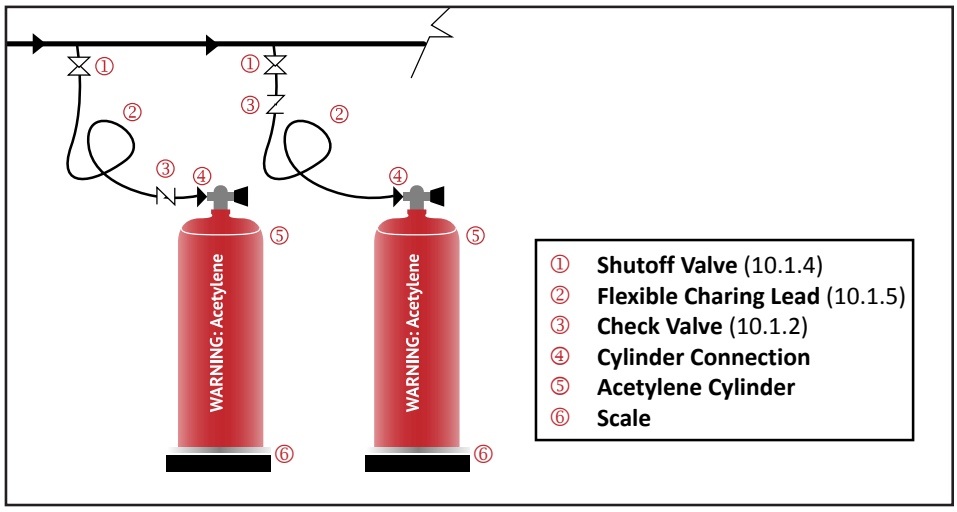
Monitoring for Acetylene Gas Releases

The Sensidyne special range Acetylene sensors (0-50% LEL, 1.25% by volume) for cylinder charging operations address user requirements for maximum sensitivity and reliable leak detection from below 10% LEL to 25% and 50% LEL alarm levels with excellent accuracy and response time. Acetone, used as a liquid solvent to prevent explosions, does not interfere with the Sensidyne sensor measurement of Acetylene LEL. The SensAlert ASI is approved by Factory Mutual (FM) for Class I, Division 1, Group A, hazardous (classified) areas and has SIL-2 certification for both hardware and software.

Air operated aspirators are commonly used to draw a sample from appropriate locations near the charging manifold stations or scales. The intrinsically safe SensAlert ASI sensor head enables remote installation without expensive rigid conduit to position sensors near Acetylene generators, purifiers and driers, or other leak-prone areas while installing the transmitter at an easily accessible location.

Expected 5-year sensor life and 6 month maintenance interval combines with SensAlert ASI reliability to achieve the lowest cost solution for cylinder filing operations. Low power requirements allow the system to be used in Mobile Acetylene Trailer Systems when they are enclosed to such an extent that there is no natural ventilation.

SensAlert ASI is the best solution for Acetylene cylinder charging facility compliance with NFPA 51A. Contact Sensidyne for assistance engineering the appropriate gas and flame monitoring system for your plant or facility.



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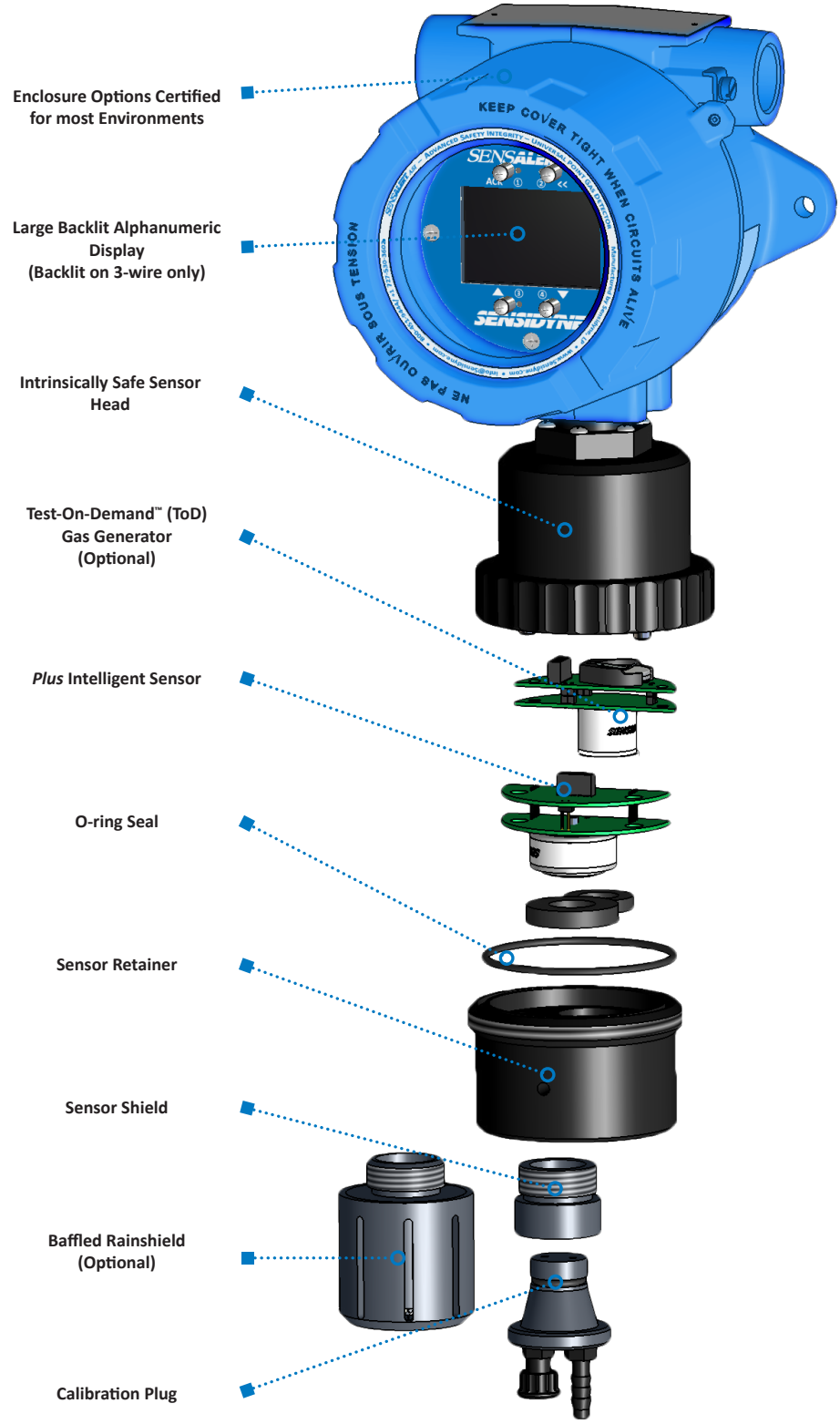

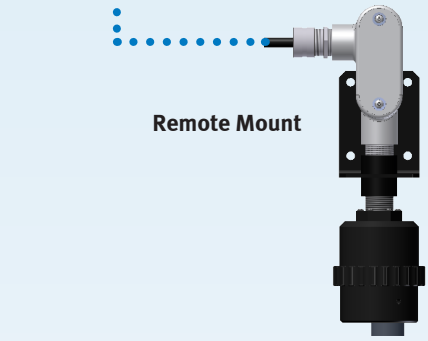

Remote Mount

SensAlert ASI provides true installation and application flexibility for local or remote mount sensors to place the sensor closer to potential gas sources.

NFPA 51A calls for the use of fast acting flame detectors like the SharpEye.

MADE IN U.S.A.

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