





Sludge Pond • Chip Yard • Tall Oil
Digesters • Recovery Boilers • Bleaching
Drying • Converting • Power House
Lime Kiln • Wastewater • Lift Station
Drinking Water • Propane Tanks

• Analyzer Rooms • Shelters • Control Rooms

Detection at every point.

SENSALERI ASI

Universal Point Gas Detector Accepting Combustible (Infrared or Catalytic), Toxic, and Oxygen Gas Sensors



Functional Safety, Unquestionable Reliability

Third-party SIL-2 certification validating long-term reliability. All Sensidyne Gas Sensors are performance tested and certified, including Oxygen and H₂S. The transmitter will indicate percent remaining life (Alarm at 10%).

Universal Platform with Intrinsically Safe Sensor Head

Hot-swap sensors or calibrate locally. Intrinsic Safety enables any sensor maintenance under power. Some users swap *shop calibrated* sensors at routine intervals, eliminating carrying equipment and gases for on-site work. Mount Sensors remotely with remote gassing fitting and tubing, up to 100 feet.

Intelligent Plus Series Sensors

Auto-recognition and set-up from memory including the latest zero/cal data. Sensidyne makes more than 50 intelligent gas sensors, all with non-volatile memory for the application parameters, including alarm levels.

Flexible Installation or Retrofit

2-wire and 3-wire transmitter models with global performance approvals. Unrestricted installation and operation in hazardous classified areas. Nonintrusive configuration and maintenance Interface (password protected). Analog and digital communication protocols plus optional alarm relays

Increased Reliability

Intelligent and dependable firmware monitors the intelligent Plus sensor for changes that could affect performance. Sensor condition and maintenance notifications are displayed locally and can be sent to a controller or facility monitoring system via on-board relays, a virtual relay (assignable to a fault current), RS-485 Modbus, HART, or 4-20mA. ASI is SIL2 certified.

Simple to Install & Maintain

The SensAlert ASI Intrinsically Safe sensor head can be remote mounted up to 100 feet (30m) from the transmitter providing greater flexibility to position the transmitter in an personnel-accessible location while positioning the sensor closer to potential hazards. A wide range of sensors, accessories and remote gassing/sampling systems further simplify maintenance and provide installation flexibility.

Reduced Cost of Ownership

Shop or field calibrate, then swap sensors under power to minimize maintenance and calibration time. A large backlit alphanumeric display with a non-intrusive user interface allows for configuration, setup, and data review without declassifying a hazardous area. SensAlert ASI is a universal transmitter allowing facility standardization across gas types, sensor technologies, and sensor ranges.





Risk Mitigation for Gas Hazards in the Pulp and Paper Industry

Ideal Monitoring Solution

SensAlert ASI is an ideal point gas monitor for the pulp and paper industry. The universal sensor head accepts Combustible (Infrared or Catalytic), Toxic, and Oxygen Gas Sensors without additional configuration or setup allowing for facilitystandardization and lower ownership costs. SensAlert ASI third-party performance approvals from ATEX and FM approved evidence of system dependability and integrity.

Monitor Potential Hazards

Potential gas hazards in pulp and paper mills are often located in difficult to reach locations. SensAlert ASI provides monitoring in these difficult to reach locations by permitting remote mount sensor heads. Sensor heads can be mounted up to 100 feet from the transmitter placing the sensor close to the potential hazard while the transmitter is in an easy access location.

The transportable calibration feature enables sensor calibration in a safe area and installation in a hazardous classified area without powering-down. Once a sensor is installed the transmitter will self-configure by uploading sensor data, to the transmitter. Test-On-Demand (TOD), available for many toxic sensors, provides a functional bump test using generated gas to confirm sensor response.

Pulp and Paper Mill Gas Hazards

Hazardous chemicals used in pulp and paper mills require careful handling and continuous monitoring to minimize threat to workers, processes, and nearby communities.

Chemical pulping techniques of the Kraft process occur in batch or continuous digesters where heat and white liquor are used to reduce wood chips to pulp. During this process glue holding the woodchips together, known as lignin, breaks down and mixes with the white liquor liberating Hydrogen Sulfide (H₂S) gas. The lignincontaminated liquor is now known as black liquor and is sent to recovery boilers where molten solids are produced. These molten solids are discharged into water tanks that form green liquor and then processed further to convert it back to white liquor for reuse in the digesters.

From the digesters pulp stock is washed, screened, and then sent to the bleaching process. Bleaching of pulp stock is achieved through either an oxidation process using Oxygen (O_2) to dissolve undesired color from pulp stock or chlorination using Chlorine (CL_2) or Chlorine Dioxide (CLO_2). Though alternate chemicals such as Hydrogen Peroxide (H_2O_2) and Ozone (O_3) are common replacements in some facilities, the chemicals used in chlorination and oxidation processes may produce deadly vapors and should be monitored.



After bleaching, pulp is sent to the burner decks for drying. Natural Gas (CH_4) used to heat the burner presents a combustible hazard.

Part Number	FM Approved	Formula	Density	"Gas data TWA/IDLH	Sensor Span-Units	TOD Cell	Response Time ² T90	Environmental Temp. (F)/Humidity RH
823-0239-41	\checkmark	CLO2	2.3	0.1ppm / 5ppm	1.0ppm	С	T90 <30sec	-4° - 122° / 15-90%
823-0239-42	\checkmark	CLO2	2.3	0.1ppm / 5ppm	5.0ppm	С	T90 <30sec	-4° - 122° / 15-90%
823-0202-22	\checkmark	CL2	2.5	0.5ppm / 10ppm	5.0ppm	С	T90 <40sec	-4° - 122° / 15-90%
823-0202-21	\checkmark	CL2	2.5	0.5ppm / 10ppm	10.0ppm	С	T90 <40sec	-4° - 122° / 15-90%
823-0206-23	\checkmark	H2S	1.2	1.0ppm / 100ppm	10.0ppm	S	T90 <30sec	-40° - 122° / 15-90%
823-0206-22	\checkmark	H2S	1.2	1.0ppm / 100ppm	50.0ppm	S	T90 <30sec	-40° - 122° / 15-90%
823-0206-21	\checkmark	H2S	1.2	1.0ppm / 100ppm	100ppm	S	T90 <30sec	-40° - 122° / 15-90%
823-0211-51	\checkmark	Hydrocarbon IR			100%LEL		T60 <12sec	-40° - 167° / 0-90%
823-0211-31	\checkmark	General Hydrocarbon CB			100%LEL		T60 <12sec	-13° - 167° / 0-95%
823-0240-22	\checkmark	02	1.1	≤19.5% / <18%	25%vol		T50 <4sec	-4° - 122° / 0-90%
823-0218-22	\checkmark	SO2	2.3	2ppm / 100ppm	10.0ppm		T90 <15sec	-4° - 122° / 15-90%

Note: Reference individual sensor datasheets for interferent gases. 1 Gas data is from ACGIH and NIOSH. User is responsible for verifying table values. 2 Nominal sensor response times slow due to sensor age, filters and calibration frequency



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