GASTECH AUSTRALIA

SafEye MODEL 200

OPEN PATH GAS MONITORING SYSTEMS

Well-Proven High Reliability

Main Features

Proven Technology
Used in highly sensitive areas to detect low gas concentration levels to activate alarms measures only when specific hazardous concentration levels are exceeded.

Thousands installed on offshore platforms, FPSO's, refineries, etc., for British Petroleum (BP), Shell, ExxonMobil, Statoil and others.

Cost Saving
One system can replace from 5 to 20 point gas detectors in a straight line of sight, up to 460 ft. (140 m). Low cost of ownership, much lower installation cost!

Fast Response
Adjustable light source flash rate gives high sensitivity and extremely fast detection time. Also prevents detector going into obscuration when a large cloud of gas passes through the beam.

Harsh Environment
Specially designed to perform under extreme conditions such as high-speed airflows, humidity and corrosive gases where point detectors may not be effective.

Low Maintenance
High reliability, simple installation, alignment and maintenance, equipment not subject to poisoning.

Standard Interface Options
Standard 4-20 mA outputs or RS-485 output to allow networking (up to 64 detectors) to a central monitoring/PC system.

This feature also enables easy maintenance, local and remote diagnostic tools.

SafEye 200 Series Open Path Gas Detector is a self-contained, fast response optical gas detection system. It detects combustible gases at concentrations lower than the explosion limit (LEL) over a “Line of Sight” of up to 460 ft. (140 m) long.

SafEye is the preferred system for offshore oil companies because it is immune to false alarms caused by partial blockage and extreme weather conditions (fog, rain, snow) and direct or reflected sunlight, flame and other black body radiation sources.

The SafEye system can be factory calibrated to a gas mixture most probable to leak in a specific location. This results in the most accurate gas concentration measurement.

The SafEye is fully functional in heavy fog, rain, etc, that results in up to 90% of the signal obscuration. In a North Sea offshore installation, tested for over six harsh winter months which included very dense fog, snow and rain, the SafEye was fully operational at all times.

SafEye is built for reliability and continued operation under all types of extreme environmental conditions. This is the field experience, which is demonstrated by the SafEye operational installations, ranging from the very humid and hot Far East to the wet and cold North Sea to the dry and cold slopes of Alaska.

The SafEye, due to its special optics design, provides for a misalignment tolerance of ±1° in all directions and is protected against false gas reading and alarms.

The SafEye unique flash source gives a very powerful radiation signal for a very short time, less than one millisecond at pre-selected intervals. This patented feature enables the detector to address only the high intensity and ultra fast signals that correspond to fast changes in gas concentration, while ignoring all other background radiation.

General Specifications

Detection Range and Response Time

Model No.	202/252	203/253	204/254	226/256	227/257
Distance (ft)	9.8-39	33-131	50-198	98-295	164-460
Distance (m)	3-12	10-40	15-60	30-90	50-140
Response Time	2 sec.	5 sec.	5 sec.	5 sec.	5 sec.

Detected Gases	C_1-C_8 flammables by models 202-227, Ethylene / LPG by models 252-257.
Immunity to False Alarm	Is not influenced by solar radiation, hydrocarbon flames and other external IR radiation sources.
Spectral Response	3.0-4.0 µm
Sensitivity Range	0-5 LEL.m Standard 0-2 LEL.m by dip-switch setting
Displacement/Misalignment Tolerance	±1°
Drift	Long-term ±5% of full scale
Temperature Range	-40°F (-40°C) to 131°F (55°C)

Electrical Specifications

Power Supply	Standard - 24 VDC (18-32 VDC)
Power Consumption	Detector: 150mA @ 24 VDC (200 mA Peak) Source: 100mA @ 24 VDC (220 mA Peak)
Electrical Connection	2 x 3/4″ - 14NPT conduits or 2 x M25 x 1.5 mm ISO
Electrical Input Protection	Complete electrical interface protection against reversed polarity voltage, surges and spikes according to MIL-STD-1275A
Electromagnetic Compatibility	EMI/RFI protected CE Marked

Outputs

4-20mA	The 4-20mA current output is source configuration Resistance Loop 100-600 Ω
RS-485	Serial communication for full control with maintenance and trouble shooting facility can be integrated for a network of max 64 detectors

Relays

	Type	Normal Position	Maximum Ratings
Alarm	SPDT	NO, NC	2A at 30VDC or 0.5 at 250 VAC
Accessory	SPST	Open	5A at 30VDC or 250VAC
Fault	SPST	Closed	5A at 30VDC or 250 VAC

Mechanical Specifications

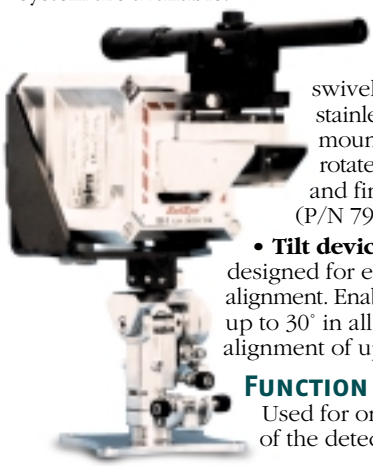
Dimensions		5.2" (132mm) x 5.2" (132mm) x max. 11" (280mm)
Weight	Al. Encl.	Detector: max 8.8 lb (4 kg) Source: max 10.8 lb (4.9 kg)
	St. Encl.	Detector: max 14.3 lb (6.5 kg) Source: max 16.7 lb (7.6 kg)
Mechanical Design		The standard detector housing is heavy-duty, copper-free (less than 1%) aluminum. The housing is finished in white epoxy enamel and is also available in 316L Stainless Steel* upon request. ** Carries an additional charge.*
Environmental Standards		Meets MIL-STD-810C for Humidity, Salt & Fog, Vibration, Mechanical shock, High Temp, Low Temp
Water and Dust Tight		IP66 and 67 NEMA 250 6P

Hazardous Area Approvals

ATEX / Cenelec	EX II 2G EExd IIB + H_2 T6 (55°C) EX II 2G EExde IIB + H_2 T6 (55°C)
UL	UL No. - E209870, Class I Groups C and D Hazardous Location
GOST R	Approved

Accessories

The following optional accessories designed for the SafEye system are available.



Mounting

- **Swivel mount** -The swivel mount is made of stainless steel 316L. The swivel mount enables the detector to rotate up to 30˚ in all directions and fine alignment of up to 3˚. (P/N 794765).
- **Tilt device** - Stainless steel 316L, designed for easy and precise alignment. Enables the detector to rotate up to 30˚ in all directions and fine alignment of up to 5˚. (P/N 796640)

Function Check Filter

Used for on-site functional testing of the detector (P/N 794260).

Alignment Telescope

Is used for simple on-site alignment of the detector with the light source. (P/N 794110)

Magnetic Switch

The magnetic mode selector is used in the field to change the detector's modes for alignment and calibration procedures (P/N 790285).

Typical Applications

Offshore Oil & Gas Exploration Oilrigs and FPSOs; Onshore Oil & Gas Terminals; Storage Farms and Filling Stations; Petrochemical and Chemical Industries; Power Utilities and Turbines areas; Waste Processing and Treatment; Transportation Terminals; Automotive, Painting, Printing, Pharmaceutical Industries and many more…

Specific applications include: • Fence-line emission monitoring • Process and storage areas • Control rooms and auxiliary equipment enclosures • Vessels and tanks roof monitoring • Bus garages and terminals (switching from diesel to natural gas) • Pipelines • LNG-LPG storage, pumping and filling • Paint-booths and paint production

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