GASSONIC
A General Monitors Company

GASSONIC OBSERVER

Ultrasonic
Gas Leak Detector

Features

- Senssonic™ - integrated acoustic self-test
- Advanced stainless steel microphone
- 4-20 mA analog output and RS-485 digital communication
- Stainless steel AISI 316L explosion proof housing
- One-person sound check and calibration with traceable portable test unit
- Three digit LED display

Benefits

- Provides full failsafe operation
- Instant detection of high-pressure gas leaks with coverage up to 20 meters in radius
- Flexible output methods for remote control and status according to industry standards
- Corrosion resistance in harsh environments
- High reliability and trouble free maintenance
- Displays actual sound pressure level and alarm indication

Description

The Gassonic Observer is a non-concentration based gas detector used to detect leaks from high-pressure systems. Like other ultrasonic monitors, the Gassonic Observer responds to the airborne ultrasound generated from gas releases in open, well ventilated areas, where traditional methods of detection may be unsuitable or dependent on ventilation. Because the Gassonic Observer responds to the source of a gas release rather than the dispersed gas, it is unaffected by changing wind directions, gas dilution, and the direction of the gas leak. Further, with its maximum coverage radius of 20 meters, it can supervise a relatively large area with a single device.

The Gassonic Observer is immune to many false signals and can be configured to filter short timescale ultrasonic noise that can produce nuisance alarms. Frequencies below 25 kHz are removed by a high pass filter, effectively eliminating interference from audible and low frequency ultrasonic noise. At the same time, setting the alarm trigger level above the ultrasonic background noise ensures immunity to other noise sources. The result is a reliable method of detection, able to monitor environments with high levels of ultrasound such as turbine rooms and compressor stations.

The Gassonic Observer also features the Senssonic™ patented self-test for full failsafe operation. This self-test checks the electrical integrity of the device and microphone every 15 minutes and ensures the Observer is operational at all times.

Applications

- Offshore and Onshore Oil and Gas Installations
- Floating Production Storage and Offloading Vessels (FPSOs)
- Gas Compressor and Metering Stations
- Underground Gas Storage Facilities
- Petrochemical Processing Plants
- Hydrogen Storage Facilities
- LNG / GTL Trains
- LNG Re-gasification Plants
- Gas Turbine Power Plants
- Gas Storage Facilities
- Refineries

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System Specifications

Detector Type: Ultrasonic (acoustic) gas leak detector

Detector Frequency Range: 25 kHz – 70 kHz

Dynamic Range: 58 – 104 dB

Test Sound Source Frequency: 40 ± 3 kHz

Test Sound Pressure: 100 ± 7 dB, 60 mm from sound source

Detector Coverage*:

Very low noise areas (<58 dB)
13-20 m radius at leak rate = 0.1 kg/s

Low noise areas (< 68 dB)
9-12 m radius at leak rate = 0.1 kg/s

High noise areas (< 78 dB)
5-8 m radius at leak rate = 0.1 kg/s

Response Time: <1 s (speed of sound)

Warranty: 2 years

Electrical Classification: Class I, Division 1, Groups B, C, D, Ex II 2G EEx d e ib IIB+H_2 T6

Approvals: FM, CSA, C-UL, ATEX, IEC Ex, GGTN K, SIL 2 and 3**

Accessories: Portable test and calibration unit, wind screen, sun shield, mounting bracket

** Reference gas is methane: All dB levels are in the ultrasonic frequency range.*
*** It has a SIL 2 rating in simplex applications and SIL 3 in voted applications with "m+1" redundancy.*

Electrical Specifications

Input Power: 15 – 30 VDC

Max. Power Consumption: 250 mA

Analog Signal:: 0 mA: No power / Low supply voltage
1 mA: Acoustic error
3 mA: Unit inhibit
4 – 20 mA: 58 dB – 104 dB

Relay 1: Error/fault indication
Relay 2: Indication of trigger level

RS-485 Output: RS-485 half duplex addressable

Cable Requirements: Max. cable length between Observer and power source @ 24 VDC (20 Ohm)
14 AWG -- 3,952 ft (1,205 m)

Mechanical Specifications

Housing: Stainless steel AISI 316L

Dimensions: 7.95 x 7.44 in (202 x 189 mm)

Weight: 16.5 lbs (7.5 kg)

Conduit Entries: M20 x 1.5

Mounting: Stainless steel bracket

Environmental Specifications

Operating Temperature Range: -40° F to 140° F (-40° C to 60° C)

Operating Humidity Range: 0 to 100% RH

Ingress Protection: IP66

Specifications subject to change without notice.

Represented by:

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