GASSONIC

A General Monitors Company

GASSONIC OBSERVER-H

**Ultrasonic
Gas Leak Detector**

Features

- Advanced stainless steel microphone

- HART and Modbus communication

- Event logging

- Senssonic™ integrated acoustic self-test

- Stainless steel AISI 316L explosion proof housing

- One-person sound check and calibration with traceable portable test unit

- Three digit LED display

Benefits

- Instant detection of pressurized gas leaks; immune to gas dilution, windy conditions, or leak direction

- Provides complete status and control capability in the control room

- Stores fault, sound check, calibration, and alarm event history

- Provides full failsafe operation

- Corrosion resistance in harsh environments

- High reliability and trouble free maintenance

- Displays actual sound pressure level and alarm indication

Description

The Gassonic Observer-H Ultrasonic Gas Leak Detector detects leaks instantaneously from high-pressure systems. It 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. Since the Gassonic Observer-H 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 wide coverage radius, it can supervise a relatively large area with a single device.

The Gassonic Observer-H 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-H 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-H is operational at all times. In addition, the ultrasonic gas leak detector is available with Modbus or HART to enable asset management and process improvement.

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

GASSONIC OBSERVER-H

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 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:

CSA/FM: Class I, Div 1 & 2, Groups B, C, D; Class II/III, Div 1 & 2, Groups E, F, & G; Type 4X (T_{amb}= -40°C to +60°C)

ATEX/IECEx: Ex d ia IIB+H_2 T6 Gb Ex tb IIIC T85°C Db; (T_{amb}= -40°C to +60°C) IP66

Approvals: FM, CSA, ATEX, IECEx, FM certified to IEC 61508, SIL 3 suitable, HART registered.

Accessories: Portable test and calibration unit, wind screen, sun shield, mounting bracket, M20 to 3/4" NPT adapter

Environmental Specifications

Operating Temperature Range:	-40°F to 140°F (-40°C to 60°C)
Operating Humidity Range:	10 to 95% RH

Electrical Specifications

Input Voltage:	15 – 36 VDC, 250 mA max.
Relay Ratings (optional):	8 A @ 250 VAC / 8 A @ 30 VDC res. max. Relay 1: Error/fault indication Relay 2: Indication of trigger level
Analog Signal (sink or source):	0 mA: Start up, other errors* 1 mA: Pulsed acoustic error* 3 mA: Unit inhibit* 4 – 20 mA: 58 dB – 104 dB

*Under HART, current values can be either 3.5 mA or 1.25 mA, depending on user selection.

RFI/EMI Protection:	Complies with EN61000-6-2 and EN61000-6-4
RS-485 Output:	Modbus RTU, suitable for linking up to 247 units with repeaters
Baud Rate:	2400, 4800, 9600, or 19200 BPS
HART (optional):	HART 6, HART Device Descriptor available, AMSaware support
Cable Requirements:	Max. cable length between Observer-H and power source @ 24 VDC (20 ohm) 14 AWG (2.08 mm²) – 5,928 ft (1,809 m)

Mechanical Specifications

Housing:	Stainless steel AISI 316L
Dimensions:	7.99 x 7.99 x 7.91 in (203 x 203 x 201 mm)
Weight:	16.5 lbs (7.5 kg)
Conduit Entries:	M20 x 1.5 (optional 3/4" NPT adapter available)
Mounting Holes:	2x mounting screws – M8 x 19 max
Standard Configuration:	ObserverH-1-1-3-1 4-20 mA, dual Modbus, Alarms de-energized, M20, screw terminal

Specifications subject to change without notice.

Represented by:

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