

GAS

SECURE

A Dräger Company

GS01 WIRELESS GAS DETECTOR

HYDROCARBON GAS DETECTION



OVERVIEW

The GasSecure GS01 represents a totally new concept in hydrocarbon gas detection both offshore and onshore. Built into a compact stainless steel enclosure the entire device is intrinsically safe and designed for service in hazardous areas. The GS01 uses single-beam triple-wavelength infrared (IR) technology for fast gas detection with extremely low power consumption. Thanks to this ultra-low power design, the small integrated battery pack enables two years of continuous operation. The GS01 also has life-long zero point stability so that it never needs to be calibrated in the field. Wireless communication is based on the open ISA100 Wireless™ standard simplifying integration with commercially available wireless access points. The GS01 creates value for the customer with dramatically reduced installation cost and time, reliable infrared operation, and the calibration-free design.

KEY FEATURES

- True wireless, no cables** – Significant cost and time savings as well as installation flexibility when compared to wired detector installation.
- Lifetime calibration** – No field calibrations required, which dramatically reduces maintenance costs.
- Fail-safe IR detection with triple wavelength** – No false alarms and includes heated optics.
- Suitable for SIL 2 systems** – 3rd party certification of detector and communication for safety applications.
- Fast response** – Providing early warning for increased plant safety.
- Hazardous area intrinsically safe design** – Low power, light weight gas detector with Ex-i field replaceable battery pack.

APPLICATIONS

GasSecure offers the world's first truly wireless IR gas detector for demanding industrial applications. The GS01 is used to detect the presence of flammable gases and warn operators of the risk of explosion. The GS01 is field proven to be a flexible and cost efficient solution for plant expansions, revamps, upgrades and new greenfield projects. Applications include:

- Oil & gas production platforms
- Storage tank farms
- Petrochemical plants & refineries
- Gas terminals & processing plants
- FPSO / FLNG vessels
- Oil & gas exploration rigs

TECHNOLOGY

The GasSecure GS01 detector is first choice for safety critical gas detection applications.

Infrared sensor technology is taken to the next level using patented MEMS (Micro Electromechanical System) optical filters. This proprietary electronic device filters and focuses the incident light and switches between gas and reference measurement at 1 kHz thereby suppressing low frequency noise. GS01 technology achieves fast and ultralow power operation with life-long zero point stability.

The innovative hardware design is supported by GasSecure's patented SafeWireless™ communication system that meets the requirements of fast response, availability and power efficiency with full control of network traffic.

TECHNICAL DATA

GENERAL

Detection method	Single beam, triple wavelength IR
Detectable gases	Hydrocarbons ¹⁾ , 0 to 100% LEL ²⁾
Calibration	Factory-set, no field calibration

MECHANICAL DATA

Dimensions	~ 300 mm x 110 mm x 170 mm
Weight	2.8 kg (incl. battery)
Mounting	With bracket for 8 mm or 5/16" bolts

PERFORMANCE

Response time	≤ 5 sec.
Accuracy	± 3% LEL or 10% of reading, whichever is greater ²⁾
Zero-point stability	± 3% LEL (lifelong)

ENVIRONMENTAL CONDITIONS

Operating temperature	-30 to +55 °C ³⁾
Storage temperature	-40 to +65 °C
Humidity	0 to 100% RH
Ingress protection	IP66 and IP67

ORDERING INFORMATION

To order / specify	GasSecure GS01
Certification	ATEX, IECEx, FM etc
Accessories	Sunshade / Weather shield GS01 serial adapter (provisioning)

APPROVALS

ATEX, IECEx	II 2G Ex ib IIC T4 Gb (-30 to +55 °C)
FM Class I, Zone 1	AEx ib IIC T4 Gb (-30 to +55 °C)
FM Class I, Div 2	Groups A,B,C,D (-30 to +55 °C)
Other	Inmetro, Tiis, EAC, Kosha
Safety level	SIL 2 certified to IEC 61508 Ed.2.0
Performance	Compliant with EN 60079-29-1

ELECTRICAL

Battery type	Lithium-Thionyl Chloride
Average power	5 mW
Battery lifetime	Up to 2 years ⁴⁾
RF output power	< 12 dBm EIRP

COMMUNICATION

Type	IEEE802.15.4, 2400-2483.5 MHz band
Protocol	ISA100 Wireless
Gateway output	Standard: Modbus TCP/RTU, OPC Optional: PROFINET (SIL2)

- 1) Available configurations: Methane, Propane
- 2) Refers to Methane
- 3) Extended range to +65 °C on request, contact GasSecure
- 4) Depending on environmental conditions

