

# GAS SECURE

## 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.

### 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

### 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 verification 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.

### 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, focuses and switches light continuously and thereby establishes the gas and reference measurement virtually simultaneously without any moving parts. 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, 0 to 100% LEL <sup>1)</sup>
Calibration	Factory-set, no field calibration

## PERFORMANCE

Response time	≤ 5 sec.
Accuracy <sup>2)</sup>	± 3% LEL for reading < 50% LEL ± 5% LEL for reading > 50% LEL
Zero-point stability	± 3% LEL (lifelong)

## ENVIRONMENTAL CONDITIONS

Certified temperature	-40 to +65 °C
Battery temp. limitation	-30 °C
Humidity	0 to 100% RH
Ingress protection	IP66 and IP67

## 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

## ACCESSORIES / SPECIALS

Customised gateway incl. access point with redundancy option  
GS01 with extendable antenna  
Sunshade / Weather shield

## APPROVALS

ATEX, IECEx	II 2G Ex ib IIC T4 Gb
Safety level	SIL 2 certified to IEC 61508 Ed.2.0
Performance	Certified to IEC 60079-29-1

## ELECTRICAL

Battery type	Lithium-Thionyl Chloride
Average power	5 mW
Battery lifetime	2 years
RF power	10 dBm (10 mW)

## COMMUNICATION

Type	IEEE802.15.4 in 2.4 GHz ISM band
Protocol	ISA 100 Wireless or WirelessHART (pending)
Standard gateway output	Modbus/TCP or Profinet (SIL 2)

## ORDERING INFORMATION

To order / specify	GasSecure GS01
Specify gas type	e.g. Methane
Certification	e.g. ATEX

- 1) Available configurations: Methane, Propane, Methanol
- 2) Refers to Methane and -20 to +50 °C

