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.

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

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

### 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)

### ORDERING INFORMATION
- **To order / specify**: GasSecure GS01
- **Certification**: ATEX, IECEx, FM etc
- **Accessories**: Sunshade / Weather shield
  - GS01 serial adapter (provisioning)

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