GAS SECURE
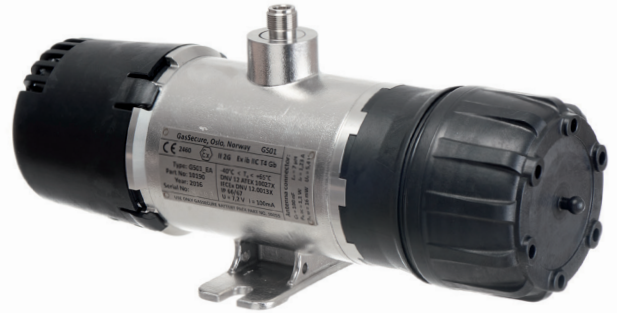
A Dräger Company

GS01-EA WIRELESS GAS DETECTOR

OVERVIEW

The GasSecure GS01-EA (Extended Antenna) has all the principal features of the standard GS01 but includes a remote antenna capability. More precisely, the GS01-EA features an n-type connector on the main housing where an antenna cable of up to 30 m length is fitted so that the antenna can be placed in a different location remote from the detector. This design is an attractive solution for applications with challenging radio conditions such as:

- Detection of flammable gases inside enclosed structure
- Detection of heavy gases close to the ground

Built into a compact stainless steel enclosure the entire device is intrinsically safe and designed for service in hazardous areas. The GS01-EA 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.

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.

Extended antenna – Enabling gas detection in areas with challenging radio communication.

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-EA is used to detect the presence of flammable gases and warn operators of the risk of explosion.
The GS01-EA 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-EA 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.

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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

PERFORMANCE

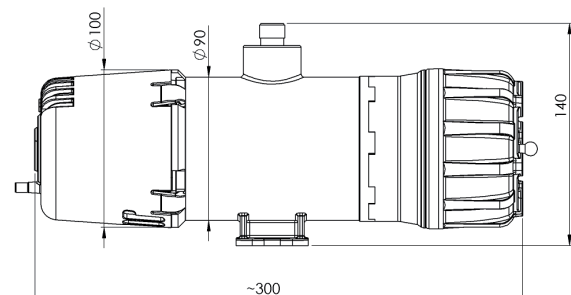|	
Response time	≤ 5 sec.
Accuracy	± 3% LEL or 10% of reading whichever is greater [2]
Zero-point stability	± 3% LEL (lifelong)

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

MECHANICAL DATA

Dimensions	~ 300 mm x 110 mm x 140 mm
Weight	2.8 kg (incl. battery)
Mounting	With bracket for 8 mm or 5/16" bolts
Extended antenna	H 250 mm, Ø 22 mm, weight 0.3 kg

ORDERING INFORMATION

To order / specify	GasSecure GS01-EA
	Antenna cable length 5m, 10m, 20m
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 verified 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	< 16 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
4) Depending on environmental conditions

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