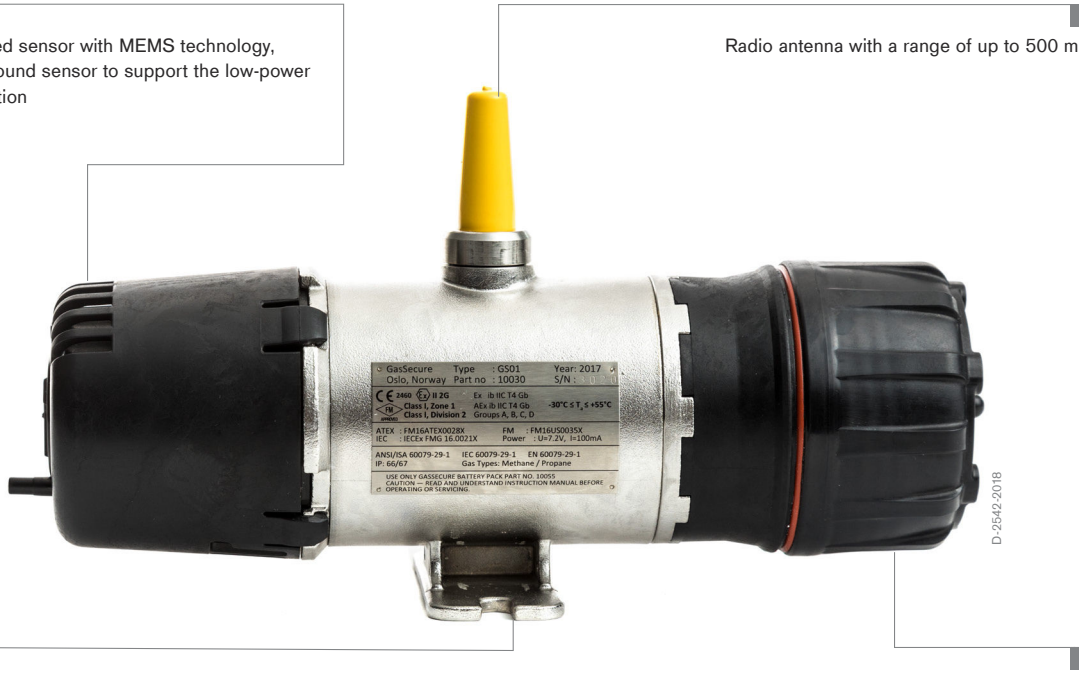
GS01 (wireless)
Detection of flammable gases and vapors

The GS01 is a wireless infrared gas transmitter for continuous monitoring of flammable hydrocarbon gases and vapors in the oil and gas industry. The intrinsically safe and SIL-rated transmitter features completely wireless signal transmission and power supply. This makes the GS01 a flexible and cost efficient solution for plant expansions, upgrades, and new greenfield projects.



Dräger. Technology for Life®

Benefits

Installations in demanding conditions

On offshore platforms or FPSOs, at tank farms and refineries - safety-related measuring points are everywhere in the oil and gas industry. Some of these measuring points are extremely difficult if not impossible to monitor using wired gas detection devices. The GS01 wireless transmitter requires no cable installation, either for signal transmission or for its power supply. As such, installation is easy and uncomplicated and the transmitter sends its signal to the access point up to 1640 feet away.

No cable conduits are required for the power supply or for signal transmission. Plus, the GS01-EA product variant with separate antenna can be installed inside the buildings where signal transmission is impossible due to shielding.

For temporary applications, such as maintenance work on petrochemical plants or exploratory drilling, the GS01 offers you maximum flexibility. It can be seamlessly integrated into your existing safety features. Even technically complex installations, such as on the rotating tower of an FPSO, can now be carried out without hassle.

Saving time and money throughout the project

The project costs with GS01 can be significantly lower than those for wired installations; as example the installation cost can be reduced up to 60 to 80%. Wireless communications and battery power decrease the need for cables, junction boxes, and control cabinets. Site installation work is significantly reduced with the ability to pre-configure all devices in advance. Additionally, planning, configuration and documentation of the system is minimised.
This is made possible by the intelligent design of the GS01. The transmitter draws less than 5 milliwatts of power. That means that depending on the ambient conditions, it can run for up to 2 years without the batteries needing to be replaced. The intrinsically safe design allows the battery pack to be replaced easily, even in the hazardous area.

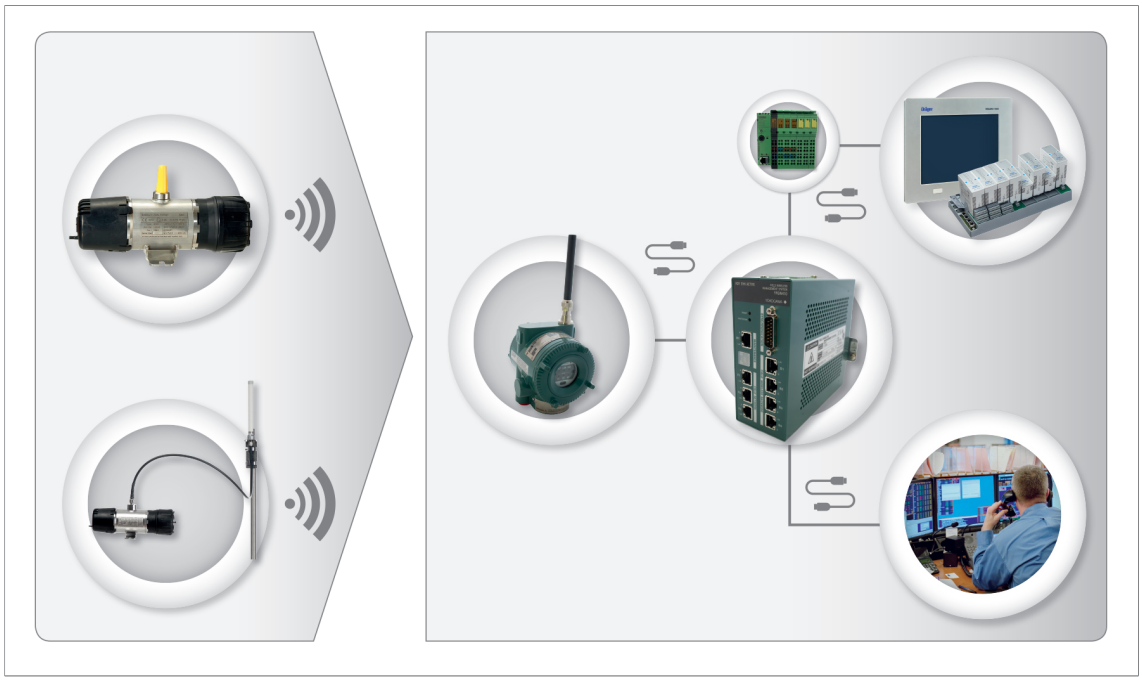
Saving time and money during operation

Infrared sensor technology is taken to the next level using patented MEMS (Micro Electromechanical System) optical filters. MEMS remains stable for a long period of time and eliminates the need for re-calibration, which directly reduces the maintenance costs. The infrared detection with MEMS operates at three different wavelength and includes heated optics to prevent condensation in the sensor.

Safe, wireless communication

The SIL2-capable GS01 uses the ISA100.11a wireless standard for wireless communication. A great benefit of this object-based standard is the possible embedding of foreign protocols, including the SIL3-certified safety protocol PROFIsafe. In combination with GasSecure's patented SafeWireless™ communication concept for fast and secure transfer of measurement data, this enables easy integration of the GS01 into safety instrumented systems (SIS) with a fully SIL2-capable signal chain. Furthermore, the open ISA100.11a standard supports easy integration of other field devices into the wireless network.

Presenting a GS01 System



The GS01 transmits its detection signal wirelessly to the access point. From there, the signal is transferred to the gateway. This feeds the control unit directly via Modbus or with the PROFINET® protocol. For analogue analyser units, a D/A converter can alternatively be used.

System Components

Yokogawa Access Point

The Yokogawa access point enables the user to access the wireless ISA100.11a network.

This product is manufactured by the company of Yokogawa.

D-11979-2017

System Components

D-11978-2017

Yokogawa Gateway

The Yokogawa gateway manages the wireless ISA100.11a network.

This product is manufactured by the company of Yokogawa.

D-6806-2016

Dräger REGARD® 7000

The Dräger REGARD® 7000 is a modular and highly expandable analysis tool. Suitable for gas warning systems with various levels of complexity and numbers of transmitters, the Dräger REGARD® 7000 is exceptionally reliable and efficient.

D-11980-2017

Phoenix Contact 4-20 mA Converter

The Phoenix Contact 4-20 mA converter is a digital-analogue converter for connecting to control units with conventional 4-20 mA input channels.

This product is manufactured by the company of Phoenix Contact.

Accessories

D-996-2016

External antenna

The external antenna allows the GS01-EA to be used even if radio transmission is restricted, e.g. by a Faraday cage.

D-11973-2017

Sun and weather shield

The sun and weather shield protects the GS01 from direct sunlight and adverse weather conditions.

Services

D-19072-2016

Dräger Service

When your operation's safety equipment is backed by over 125 years of experience and supported by the same team that engineered it, you can rely on service and rental solutions that are tailored to meet your unique needs. With Dräger's safety solutions, you get complete peace of mind, budget security, and full-service support that you can count on every step of the way. That's the Dräger Service Advantage.

Related Products

D-14983-2010

Dräger Polytron® 8700 IR

The Dräger Polytron® 8700 IR is an advanced explosion proof transmitter for the detection of combustible gases in the lower explosion limit (LEL). It uses a high performance infrared Dräger PIR 7000 sensor, which will quickly detect most common hydrocarbon gases. Besides a 3 wire 4 to 20 mA analogue output with relays, it also offers Modbus and Fieldbus making it compatible with most control systems.

D-4649-2019

Dräger Polytron® 6100 EC WL

The Dräger Polytron 6100 EC WL is a wireless transmitter for continuous monitoring of toxic gases and oxygen. The instrinsically safe and SIL2-rated transmitter features completely wireless signal transmission and power supply. The internal battery pack allows the transmitter to operate continually for up to 24 month. This makes the Polytron 6100 a flexible and cost efficient solution for plant expansions, upgrades, and new installations.

Technical Data

General	Measuring principle	Infrared single beam, triple wavelength	
	Detectable gases	ATEX / IECEx:	0 to 100 % LEL (Methane, Propane)
		FM:	0 to 100 % LEL (Methane)
			0 to 80 % LEL (Propane)
	Calibration	Factory-set, no field calibration	
Performance	Response time	≤5 seconds	
	Accuracy	±3 % LEL or ±10 % of measured value, each the higher value (refers to Methane)	
	Zero-point stability	±3 % LEL (lifelong)	
Electrical Data	Battery type	Lithium-Thionyl Chloride	
	Average power	5 mW	
	Battery lifetime	Up to 2 years (depending on the environmental conditions)	
	RF power	GS01: <12 dBm EIRP GS01-EA: <16 dBm EIRP	
Communication	Type	IEEE802.15.4 in 2.4 GHz ISM Band	
	Protocol	ISA100 Wireless™	
	Gateway output	Standard: Modbus TCP/RTU, OPC	
		Optional: PROFINET® (SIL2)	
Environmental Conditions	Operating temperature	-30 degrees C/-22 degrees F to + 55 degrees C/131 degrees F (if higher temperature ranges up to +65 °C are required please contact Dräger)	
	Storage temperature	-40 degrees C/ -40 degrees F to + 65 degrees C/149	
	Humidity	0 to 100 % RH	
	Protection Class	IP66 and IP67	
Housing	Dimensions	11.81" x 4.33" x 6.70"	
	Weight	6.17 lbs (incl. Battery)	
	Mounting	With bracket for 8 mm or 5/16" bolts	
Approvals	ATEX / IECEx	II 2G Ex ib IIC T4 Gb (-30 degrees C/-22 degrees F to + 55 degrees C/131 degrees F.)	
	FM	Class I, Zone 1 AEx ib IIC T4 Gb (-30 degrees C/-22 degrees F to + 55 degrees C/131 degrees F.)	
		Class I, Div 2 Group A, B, C, D (-30 degrees C/-22 degrees F to + 55 degrees C/131 degrees F.)	
	Performance Approval	Compliant with EN 60079-29-1	
	Safety Integrity Level	SIL2 IEC 61508, Ed.2.0	

PROFINET® is a registered trademark of PROFIBUS and PROFINET International (PI).

The ISA100 Wireless™ is a trademark of ISA100 Wireless Compliance Institute.

Ordering Information

GS01 wireless IR Gas Detector FM	AL20735
GS01-EA wireless IR Gas Detector-5m FM	AL20737

Ordering Information

GS01-EA wireless IR Gas Detector-10m FM	AL20738
GS01-EA wireless IR Gas Detector-20m FM	AL20739
GS01 Battery pack FM (without cells)	AL20713
GS01 Battery cell type SL-2780/S	AL20706
GS01 Battery cover	AL20708
GS01 Weather cap	AL20709
GS01 Serial adapter	AL20710
GS01 Sunshade / weather protection	AL20711

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