GS01 (wireless)
Detector for flammable gases and vapours

The GS01 is a wireless infrared gas transmitter for continuous monitoring of flammable hydrocarbon gases and vapours 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. In contrast, 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 500 metres 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 machines or 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 is typically reduced with 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. This 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 hazard area.

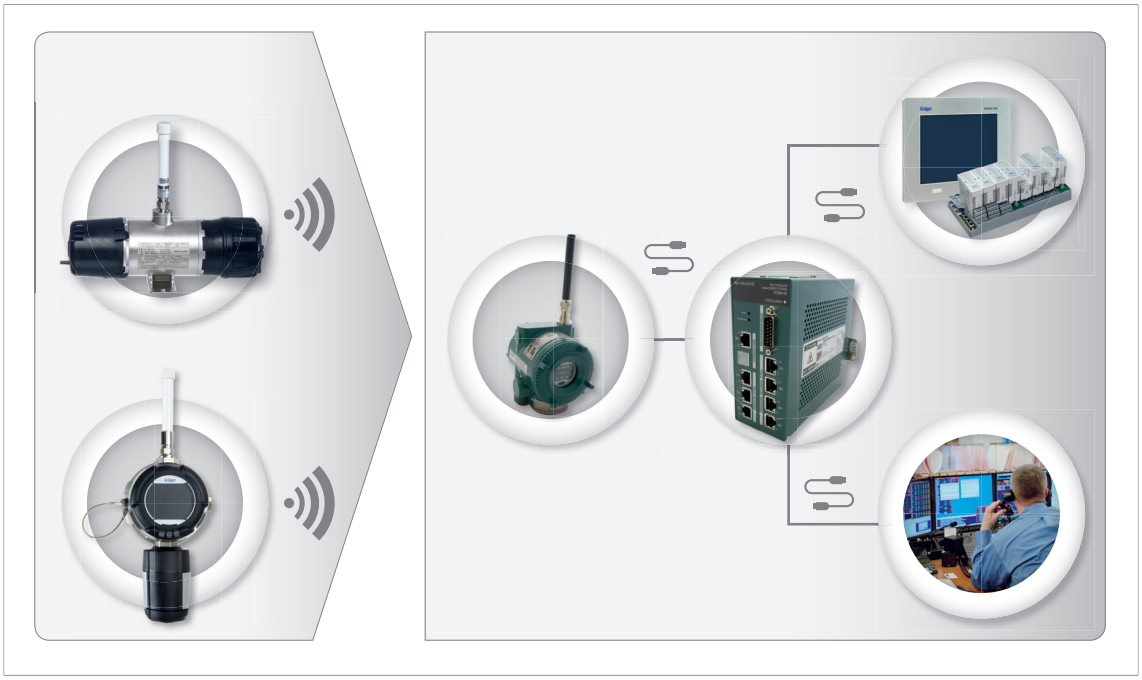
Saving time and money during operation

Infrared sensor technology is taken to the next level using proprietary MEMS (Micro Electromechanical System) optical filters. MEMS is very long-term stable 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 own 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.

Presentation of a Dräger wireless gas detection system



The wireless transmitter send their detection signal to the access point. From there, the signal is transferred to the gateway, which feeds the control unit directly via Modbus or with the PROFINET® protocol.

System Components

Yokogawa Access Point

The Yokogawa Access Point is part of the ISA100 Wireless™ network backbone and allows connection for ISA100 Wireless™ enabled field devices. Together with the Yokogawa gateway, it forms the field wireless infrastructure.

D-11979-2017

System Components

D-11978-2017

Yokogawa Gateway

The Yokogawa gateway manages the ISA100 Wireless network and translates wireless communication to common protocols like Modbus and PROFINET. Together with the Yokogawa Access Point, it formes the field wireless infrastructure.

D-6806-2016

Dräger REGARD® 7000

The Dräger REGARD® 7000 is a modular and therefore highly expandable control system for monitoring various gases and vapours. Suitable for gas warning systems with various levels of complexity and numbers of transmitters, the Dräger REGARD® 7000 also features exceptional reliability and efficiency. An additional benefit is the backward compatibility with the REGARD®.

Accessories

D-996-2016

External antenna

The external antenna allows the GS01-EA to be used even if radio transmission is restricted, e.g. inside buildings or metal structures.

Accessories

D-11972-2017

Sun and weather shield

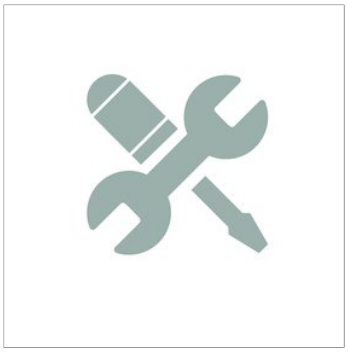
The sun and weather shield protects the GS01 from direct sunlight and adverse weather conditions.

D-8928-2019

Dräger Polytron Repeater

The Dräger Polytron Repeater relays communication from other field devices in the wireless network. This means that alternative communication paths may be established, or the range of the wireless network extended. This device can be battery-powered (five years' operation) or connected to mains power.

Services



D-2331-2016

Product Service

Our product service department supports you with a range of service packages – in our shops or on site in your plant. Care, servicing and maintenance are key factors when it comes to safety. Diligent maintenance and care is also absolutely necessary from an economics perspective. Preventive checks, service procedures and original replacement parts make your investment last longer.

Services

D-2335-2016

Training

The Dräger Academy has imparted well-founded and practical knowledge for over 40 years. With over 110 authorized trainers and more than 600 available topics, we conduct more than 2,400 training sessions per year. We equip your employees with the knowledge required for real-life situations and ensure that the learned material can be recalled and applied reliably – in their everyday work and especially in stressful situations. To meet your needs, we are also happy to develop a customized training program specifically for you.

Related Products

D-4653-2019

Dräger Polytron® 6100 EC WL

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

ST-11659-2007

Dräger PIR 7000

The Dräger PIR 7000 is an explosion proof point infrared gas detector for continuous monitoring of flammable gases and vapours. With its stainless steel SS 316L enclosure and drift-free optics, this detector is built for the harshest industrial environments, e.g. offshore installations.

Technical Data

GS01

General	Measuring principle	Infrared single beam, triple wavelength
	Detectable gases	0 to 100 % LEL (Methane)
		0 to 60 % 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 °C to +55 °C (if higher temperature ranges up to +65 °C are required please contact Dräger)
	Storage temperature	-40 °C to +65 °C
	Humidity	0 to 100 % RH
	Protection Class	IP66 and IP67
Housing	Dimensions	300 x 110 x 170 mm
	Weight	2.8 kg (incl. Battery)
	Mounting	With bracket for 8 mm or 5/16" bolts
Approvals	ATEX / IECEx	II 2G Ex ib IIC T4 Gb (-30 °C to +55 °C)
	FM	Class I, Zone 1 AEx ib IIC T4 Gb (-30 °C to 55 °C) Class I, Div 2 Group A, B, C, D (-30 °C to 55 °C)
	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	37 05 976
GS01-EA wireless IR Gas Detector-5m FM	AL 20 737
GS01-EA wireless IR Gas Detector-10m FM	AL 20 738
GS01-EA wireless IR Gas Detector-20m FM	AL 20 739
GS01 Battery pack FM (without cells)	AL 20 713
GS01 Battery cell type SL-2780/S	AL 20 706
GS01 Battery cover	AL 20 708
GS01 Weather cap	AL 20 709
GS01 Serial adapter	AL 20 710
GS01 Sunshade / weather protection	AL 20 711

Ordering Information

Sencity OMNI-S 6 dBi antenna	AL 20 718
Sencity OMNI-S 2 dBi stick antenna N-male	37 05 654
Sencity OMNI-S 2 dBi stick antenna	37 05 655
Antenna cable with N connector, 5 m	AL 20 719
Antenna cable with N connector, 10 m	AL 20 720
Antenna cable with N connector, 20 m	AL 20 721
O-ring GS01,battery comp., Ø 8.4 cm, 5 pc	37 01 093

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