

Dräger GS01 (wireless) Detection of flammable gases and vapours

The Dräger GS01 is a wireless infrared gas transmitter for continuous monitoring of flammable 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 it ideal for reaching difficult-to-access measuring points, while also significantly reducing installation costs.

Infrared sensor with MEMS technology, ultrasound sensor to support the low-power operation

Radio antenna with a range of up to 500 m



Rugged stainless steel case with assembly

Battery operating time up to 24 months

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 alignments 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 during installation

The costs of installing the GS01 are 60 to 80% lower than those for wired transmitters. Wireless communication and power supply decrease the need for cables, docking stations and control cabinets, but also considerably reduce the work involved in installation. In addition, less input is required for planning, configuration and documentation of the system.

This is made possible by the intelligent design of the GS01. The transmitter runs on less than 5 milliwatts of power. That means you can operate it for up to two years without having to change the battery, depending on environmental conditions. The intrinsically safe construction also allows for trouble-free battery-pack replacement, even in potentially explosive atmospheres.

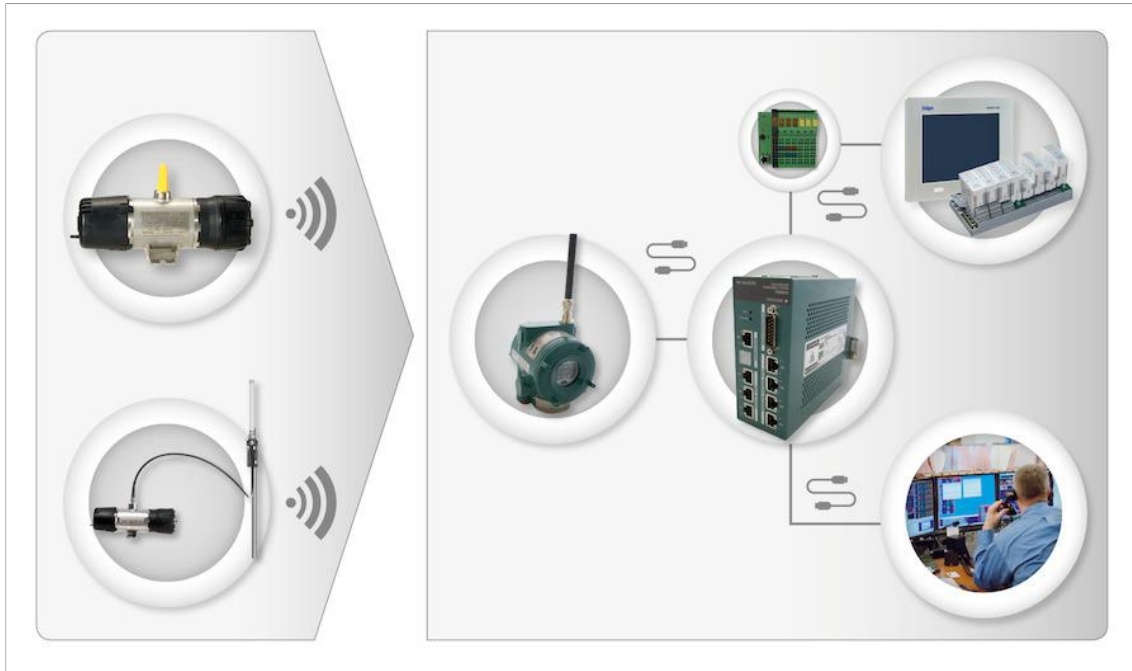
Saving time and money during operation

The long-term stability of the GS01, due to the Micro Electromechanical System (MEMS), eliminates re-calibration, which directly reduces your maintenance costs. The microelectromechanical system guarantees extremely failsafe infrared-optical detection. This takes place on three different wavelengths and includes heated optics to prevent condensation in the sensor. As a result, false alarms are significantly reduced.

Familiar, reliable transmitter

Wired or wireless, Dräger always demands high quality when it comes to the construction and measuring quality of its transmitters. The SIL2-capable GS01 uses the ISA100.11a wireless standard, which ensures that the signal chain is fully SIL2-capable. Furthermore, the ISA100.11a standard enables simple integration of your additional wireless field devices into the existing communication network. Additionally, the high-speed, secure transfer of measurement data through the patented SafeWireless™ communication system adds to the overall safety of your facility.

Presenting a Dräger GS01 System



The Dräger 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.

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-11980-2017



Phoenix 4-20 mA Converter

The Phoenix 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.

Accessories

D-996-2016



External antenna

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

Accessories

D-11973-2017

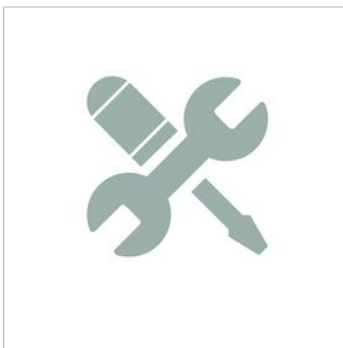


Sun and weather shield

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

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.

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-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.

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

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 measuring 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 bis +55 °C)	
	FM	Class I, Zone 1 AEx ib IIC T4 Gb (-30 °C bis 55 °C) Class I, Div 2	
		Group A, B, C, D (-30 °C bis 55 °C)	
	Safety Integrity Level	SIL2 EN 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

Dräger GS01 wireless IR Gas Detector	AL20700
Dräger GS01 wireless IR Gas Detector FM	AL20735
Dräger GS01-EA wireless IR Gas Detector-5m	AL20715
Dräger GS01-EA wireless IR Gas Detector-5m FM	AL20737
Dräger GS01-EA wireless IR Gas Detector-10m	AL20716
Dräger GS01-EA wireless IR Gas Detector-10m FM	AL20738
Dräger GS01-EA wireless IR Gas Detector-20m	AL20717
Dräger GS01-EA wireless IR Gas Detector-20m FM	AL20739
Dräger GS01 Battery pack (without cells)	AL20712
Dräger GS01 Battery pack FM (without cells)	AL20713