# Dräger Polytron® 8900 UGLD
# Ultrasonic Gas Leak Detector

The Dräger Polytron® 8900 UGLD transmitter is an early warning area monitor for detecting high-pressure gas leaks in outdoor industrial process environments. Thanks to an ultrasonic acoustic sensor, it responds earlier than conventional gas detectors because it registers the sound of leaking gas instead of measuring the concentration of accumulated gas clouds. As gas escapes, leaks are immediately detected in the surrounding area, regardless of which way the wind is blowing.



Menu control

Backlit display

LED status display

Ultrasound sensor

D-5541-2018

Dräger. Technology for Life®

# Benefits

### Ultrasonic sensor technology – the early warning system for gas leaks

Typical gas detection systems used to monitor pressurised gas pipes or containers in industrial environments only detect a gas leak if the gas is in the immediate vicinity of the gas sensor. Environmental influences such as wind can delay or prevent a gas cloud from being detected by gas sensors. On the contrary, the Dräger Polytron® 8900 UGLD is not affected by environmental factors and detects a high-pressure gas leak as soon as gas escapes. After gas leak detection and a pre-set delay, an alarm signals, enabling immediate reaction for quick defusing of the situation. Effective early gas leak warnings can prevent unnecessary shutdowns, saving time and money.

### A perfect complement to your gas detection system

The Dräger Polytron 8900 extends the Polytron 8000 series family with acoustic gas leak detection. All transmitters in this series have the same design and an identical user interface. A common user interface ensures that little training or maintenance is required for existing users. The Polytron 8900 UGLD perfectly complements existing flame and gas detection systems with reliable early gas leak warnings.

### Delivers results that are easy to understand

For easy interpretation of results, the measured values on the display of the Polytron 8900 UGLD are shown from 0 to 100 percent of the full scale decibel sensitivity range. The ultrasound level is immediately displayed and transmitted without the use of difficult to interpret artificial intelligence. Alarms are configured at a specific level above a predetermined background noise level. Additionally, a time delay of up to 30 seconds can be set in the control system.

### Can even detect gas leaks in loud industrial environments

Loud process areas generate noise which is mostly in the audible spectrum. Gas leaks from pressurized vessels above 10 bar generate both audible sound and inaudible ultrasound. Since Polytron 8900 is tuned to measure in the ultrasound spectrum, it can easily identify gas leaks with a leak rate of 100 g/sec in a 20 meter radius circle.

### Robust design and fully-sealed sensor

The Polytron 8900 UGLD is an explosion-proof transmitter with a sensor housed in a galvanically-isolated, intrinsically-safe enclosure. The sensor is an ultrasonic microphone that is completely sealed in PVC, making it impervious to water and dirt. It provides reliable readings without the need for an additional environmental protection baffle. Regular calibration is not necessary, but unlike some other UGLDs on the market, calibration is possible and easy. The expected lifespan of the ultrasonic sensor is more than 10 years.

# Accessories



D-5554-2018

### Calibration and bump test kit

Even though the UGLD's sensor does not need to be replaced and does not need regular calibrations, they are still possible. Unlike some other UGLDs on the market, a calibration can be performed using a system similar to that of traditional gas detectors. The kit has room for a standard compressed air cylinder and generates a certified sound level using a sensor adapter. There is an additional adapter for zeroing the sensor. A directional sonic generator uses compressed air to generate sound, which can be used to bump test a specific UGLD from up to five meters away.



D-3424-2019

### Field survey device

A field survey device enables a preliminary ultrasonic measurement for optimal installation and configuration of a UGLD. The background levels can be mapped in order to determine the measurement radius and alarm set points for each UGLD location.



D-13019-2018

### Remote sensor

With the EC Sensing Head Remote, the UGLD's sensor can be installed up to 30 metres away from the Polytron 8900 in a separate compact housing. The separate sensor housing with included field cable is intrinsically safe, which makes installation considerably easier and more flexible. This means that it is not necessary to search for a suitable cable and the sensor's position can even be adjusted within an Ex zone later on.



D-5556-2018

### Field commissioning device

Once an UGLD is installed, it should be tested in order to ensure correct installation at each location. A field commissioning device is placed at each potential gas leak point and generates a test gas leak of up to 100 g/sec with air or nitrogen. The field commissioning device is available for use with the following cylinder threads: DIN 477 No. 10, CGA 580 and BS341-03.

# Accessories
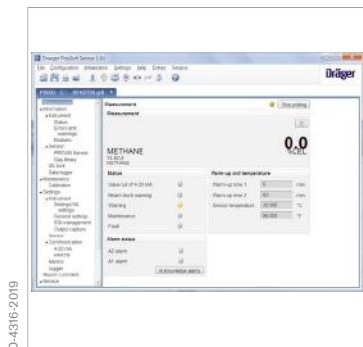


### Dräger Polysoft software

The optional Dräger Polysoft Windows® software is used for configuration, firmware upgrades, diagnostics, and downloading the Polytron's built in datalogger. All from the comfort of your control room using the digital HART® signal that rides on top of the analog 4-20 mA signal. Out in the field, an available non intrusive IR dongle easily connects Polytron® to Polysoft.

# Related Products



### Dräger Polytron® 8100 EC

The Polytron® 8100 EC is Dräger's top of the line explosion proof transmitter for the detection of toxic gases or oxygen. It uses a high performance plug and play electrochemical DrägerSensor® to detect a specific gas. Besides a 3 wire 4 to 20 mA analog output with relays, it also offers Modbus and Fieldbus protocol making it compatible with most control systems.



### 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 analog output with relays, it also offers Modbus and Fieldbus making it compatible with most control systems.

# Related Products



D-7358-2016

## Dräger Pulsar 7000 Series

The fixed-point, open-path gas detectors of the Dräger Pulsar 7000 series detect explosive hydrocarbons in gases and vapors. With a robust design and an extremely short reaction time, the Dräger Pulsar 7000 series sensors provide a reliable solution for your challenges in the oil and gas industry, as well as in the chemical industry.



D-5901-2016

## Dräger Flame 2700

Working in areas with combustible gases, vapor, or materials requires fire/flame detection as a life-saving necessity. The best solutions must combine state-of-the-art technology with rugged durability and be ready to reliably work in any situation. The Drager Flame 2700 multi-IR incorporates several detection algorithms to simultaneously detect both $CO_2$ and $H_2O$ peaks, and reduce false alarms.

# Technical Data

**Dräger Polytron® 8900 UGLD**

| | | | |
|---|---|---|---|
| Type | Explosion proof / flameproof enclosed transmitter ("d") | | |
| Gases | Flammable and toxic gases such as hydrogen, methane, propane, $CO_2$, nitrogen and hydrogen sulphide | | |
| Measurement ranges | 0-100% equivalent to 55-110 dB re 20µPa | | |
| Back-lit | Back-lit graphic LCD display; 3 status LEDs (green/yellow/red) | | |
| | | | |
| Electrical data | Analogue signal output | Normal operation | 4 to 20 mA |
| | | Maintenance | Constant 3.4 mA or |
| | | | 4 mA ±1 mA |
| | | | 1 Hz modulation; (adjustable) |
| | | Fault | < 1,2 mA |
| | Digital signal output | HART® | |
| | Power supply | 10 to 30 V DC, 3-wire | |
| | Relay specification | Two alarm relays and one error relay, SPDT 5 A @ 230 VAC, 5 A @ 30 VDC | |
| | | | |
| Environmental conditions (See sensor data sheet) | Temperature | -40 to 60ºC (-40 to 140ºF) with relays | |
| | Pressure | 700 to 1,300 mbar | |
| | Humidity | 0 to 100 % relative humidity, non-condensing | |
| Housing | Transmitter housing | Stainless steel SS316L | |
| | Sensor housing | Polyamide | |
| | Housing protection type | NEMA 4X & 7, IP65/66/67 | |
| | Cable entry | Three ¾" NPT thread openings or M20 cable gland | |
| | Dimensions (H × W × D), | 280 x 150 x 130 mm | |
| | Weight, approx. | 5,0 kg | |
| | | | |
| Approvals | UL* | Class I, Div 1, Groups A, B, C, D; Class I, Zone 1, Group IIC; T-Code T6 / T4 | |
| | CSA** | Class I, Div 1, Groups A, B, C, D; Class I, Zone 1, Group IIC; T-Code T6 / T4 | |
| | IECEx | Ex db [ia] IIC T6/T4 Gb, -40 ≤ Ta ≤ +40 / +70 ℃ | |
| | ATEX | II 2G Ex db [ia] IIC T6/T4 Gb, -40 ≤ Ta ≤ +40 / +70 ℃ | |
| | CE Markings | ATEX (Directive 2014/34/EU) Electromagnetic compatibility (Directive 2014/30/EU) Low voltage (Directive 2014/35/EU) | |
| | Marine approval** | DNV-GL | |
| | SIL 2* | Certificate TÜV Süd | |
| * Pending | | | |
| ** Planned | | | |

# Ordering Information

**Dräger Polytron® 8900 UGLD**

| | | |
|---|---|---|
| Polytron 8900 UGLD d S 4-20/HART® Relay | | 83 28 030 |
| Stainless Steel Ex d Housing with 4-20mA HART output and 3 Relays | | |

**Accessories**

| | | |
|---|---|---|
| Magnetic Wand | | 45 44 101 |
| Remote Sensing Head with wall mount kit | | 83 28 021 |
| Connecting cable with plug | 5 m | 83 23 305 |
| for the Remote Sensing Head | 15 m | 83 23 315 |
| | 30 m | 83 23 330 |
| UGLD Calibration and Bump Test Kit w/o Air Cylinder | | 83 28 042 |
| Zero Air Gas Cylinder 112L for Calibration and Bump Test Kit | | 68 13 239 |
| Pole Mount Kit | | 45 44 198 |
| Dräger PolySoft Configuration Software | | 83 23 405 |
| IR Connection Kit (requires PolySoft) | | 45 44 197 |

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