# Dräger PEX 3000
# Detection of flammable gases and vapours

—

The Dräger PEX 3000 transmitter detects flammable gases and vapours in concentrations below their lower explosive limit (100 % LEL). It helps you to increase the explosion protection of your plant. Its heat-tone sensor reacts to gas within just a few seconds, and the measurement signal remains particularly stable over the long term.

**Dräger**

**Technology for Life**

# Benefits

### Two transmitter variants

Choose between two measurement ranges (0 to 100% or 0 to 10% LEL). Do you want to position the transmitter and sensor separately? The remote variant includes a second cable input instead of the built-in sensor for connecting a Polytron SE Ex remote measuring head.

### Simple installation

The three stripped individual wires of the shielded measuring cable are simply inserted into the spring-loaded clamps provided on the transmitter. The sensor is connected in the same way. This type of contact is state of the art. It is more reliable than screw clamp technology, as it is impossible for it to loosen itself.

### One-person calibration

You do not need an additional handheld control unit. Maintenance and calibration are carried out directly on the opened transmitter using only two buttons and a two-digit 7-segment display. And this is expressly permitted even in Ex areas!

### Explosion protection

The Dräger PEX 3000 is approved according to the EU Directive 2014/34/EU for operating temperatures between -40 and +65 °C, making it suitable for use in both gas and dust hazardous Ex areas (Zones 1, 2, 21, and 22).

### Low gas concentrations

The Dräger PEX 3000 Type XTR 0011 transmitter features a special low-drift LC sensor, making it ideal for detecting gases at low concentrations. It reliably detects gas leaks at levels below just 10% LEL.

### The heat-tone sensor

The catalytic DrägerSensor... DQ is based on the heat-tone principle. The most important component is the hot, catalytically active beads on platinum coils (pellistors). These pellistors burn the gas, generating additional reaction heat. The temperature increases depending on the gas concentration, which in turn changes the electrical resistance of the platinum coils. This change is transmitted as a measurement signal. The double-detector compensation method ensures the heat-tone sensor remains particularly stable over the long term. The wire mesh at the gas inlet acts as a flame arrester. This provides explosion protection while maintaining a short response time.

# System Components



D-10088-2018

## Catalytic Bead DrägerSensor

The DrägerSensor ... DQ detects flammable gases and vapours such as hydrogen. Due to the double-detector compensation method, the catalytic sensor is particularly long-term stable. The wire mesh at the gas inlet serves as a flame barrier. So it ensures explosion protection at the same time short response time.



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.

# Related Products



D-1923-2022

## Dräger Polytron SE Ex

The Dräger Polytron SE Ex … DQ sensing heads are gas detectors for the continuous monitoring of flammable gases and vapours in the ambient air. Measurement is based on the heat of reaction principle where a chemical reaction takes place in a catalytic bead (also known as a pellistor) inside the sensor.



D-32407-2011

## Dräger Polytron 5200 CAT

The Dräger Polytron 5200 CAT is a cost-effective, explosion-proof transmitter designed for detecting flammable gases and vapours. It uses the catalytic DrägerSensor Ex… DQ. Due to the 3-wire operation and the 4 to 20 mA analogue output, you can combine the transmitter with most evaluation systems in your gas detection system.



102037

## Dräger Polytron 8200 CAT

The Dräger Polytron 8200 CAT is an explosion-proof high-end transmitter designed for detecting flammable gases and vapours. It uses the catalytic DrägerSensor Ex… DQ. In addition to the 3-wire operation with a 4 to 20 mA analogue output, it also offers HART, fieldbus options and Modbus, allowing you to integrate the transmitter with most control systems in your gas detection system.

# Technical Data

**Dräger PEX 3000**

| | |
|---|---|
| Gases and vapours | Flammable gases and vapours in the ambient air, such as: Acetone, Acetylene, Ammonia, Petrol 065/095, Benzene, 1,3-Butadiene, n-Butane, n-Butyl acetate, Diethyl ether, Dimethyl ether, Ethanol, Ethyl acetate, Ethylene, Ethylene oxide, n-Hexane, Methane, Methanol, Methyl ethyl ketone (MEK), Methyl methacrylate, n-Nonane, n-Octane, n-Pentane, Propane, i-Propanol, Propylene, Propylene oxide, Toluene, Hydrogen, and o-Xylene, 1-Ethoxy-2-propanol, 1-Methoxy-2-propanol, Allyl alcohol, Ethane, i-Butane, i-Butene, Carbon monoxide, Methyl tert-butyl ether, N-Methyl-2-pyrrolidone, n-Propanol, Styrene |

| | | |
|---|---|---|
| Measuring range | Type XTR 0001 | 0 to 99% LEL |
| | Type XTR 0011 | 0 to 9.9% LEL |
| | Type XTR 0091 with measuring head SE Ex PR / HT ... DQ | 0 to 99% LEL |
| | Type XTR 0091 with measuring head SE Ex LC ... DQ | 0 to 9.9% LEL |

**Electrical data**

| | | |
|---|---|---|
| Supply voltage | 12 to 30 V DC (nominally 24 V DC), max. 110 mA at 24 V | |
| Maximum cable length (at 24 V, 250 Ohm) | 2,400 m with 3 x 1.5 mm$^2$, 1,600 m with 3 x 1.0 mm$^2$, 1,200 m with 3 x 0.75 mm$^2$ | |
| Output signals | Measuring mode | 4 to 20 mA |
| | Maintenance | 3.4 mA |
| | Fault | < 1.2 mA |
| Measurement setting time (at 25 °C, Methane) | Type XTR 0001 | $t_{50}$: 3 ... 5 s |
| | | $t_{90}$: 8 ... 10 s |
| | Type XTR 0011 | $t_{50}$: < 9 s |
| | | $t_{90}$: < 20 s |

**Housing**

| | | |
|---|---|---|
| Housing material | Glass fibre reinforced polyester (GRP) with a metallic inner coating | |
| Housing protective rating | IP 66 | |
| Dimensions (W x H x D) | Type XTR 00x1 | approx. 110 x 145 x 55 mm |
| Weight | approx. 600 g (type XTR 0091: approx. 450 g) | |
| Sensor lifespan | Over 3 years on average | |

**Ambient conditions**

| | |
|---|---|
| Temperature | -40 to +65 °C (see below) |
| Pressure | 700 to 1,300 hPa |
| Humidity | 5 to 95 % RH |

# Technical Data

**Approvals**

| | | |
|---|---|---|
| Device marking according to 2014/34/EU | Type XTR 0001 or XTR 0011 | II 2G Ex db eb IIC T6/T5/T4 Gb |
| | | II 2D Ex tb IIIC T80/95/130 °C Db IP6X |
| | | -40 °C ≤ Ta ≤ +40/55/65 °C |
| | Type XTR 0091 | II 2G Ex db eb IIC T6 Gb |
| | | II 2D Ex tb IIIC T80 °C Db IP6X |
| | | -40 °C ≤ Ta ≤ +65 °C |
| Suitability test | according to EN 60079-29-1 for the gases and vapours listed above (only 100 % LEL variants) | |
| Functional safety (only 100 % LEL variants) | Average probability of failure on demand (TP = 1 year) | PFD = 5.56E-04 |
| | Proportion of safe failures (HFT = 0, Type B) | SFF = 90.4 % |

# Ordering Information

**Dräger PEX 3000**

| | |
|---|---|
| Dräger PEX 3000, Type XTR 0001, medium-sized housing, 0 … 100% LEL | 83 18 360 |
| Dräger PEX 3000, Type XTR 0011, medium-sized housing, 0 … 10% LEL | 83 18 370 |
| Dräger PEX 3000, Type XTR 0091, medium-sized housing, remote transmitter without sensor | 83 18 390 |
| Dust filter for DrägerSensor PR M DQ (PE discs, pack of 10) | 68 10 537 |
| Calibration adapter (PE) | 68 06 978 |
| Process adapter (stainless steel) for Dräger PEX 3000 XTR 0001 | 68 12 470 |
| Process adapter (stainless steel) for Dräger PEX 3000 XTR 0011 | 68 12 465 |
| DrägerSensor PR M DQ | 68 14 140 |

**Corporate Headquarters**
**Drägerwerk AG & Co. KGaA**
Moislinger Allee 53–55
23558 Lübeck, Germany
🖥 www.draeger.com

**Region Europe**
**Dräger Safety AG & Co. KGaA**
Revalstraße 1
23560 Lübeck, Germany
📞 +49 451 882 0
🖨 +49 451 882 2080
✉ info@draeger.com

**Region Middle East, Africa**
**Dräger Safety AG & Co. KGaA**
Branch Office
P.O. Box 505108
Dubai, United Arab Emirates
📞 +971 4 4294 600
🖨 +971 4 4294 699
✉ contactuae@draeger.com

**Region Asia Pacific**
**Draeger Singapore Pte. Ltd.**
61 Science Park Road
The Galen #04-01
Singapore 117525
📞 +65 6872 9288
🖨 +65 6259 0398

**Region Central and South America**
**Dräger Indústria e Comércio Ltda.**
Al. Pucuru - 51 - Tamboré
06460-100 - Barueri - São Paulo
📞 +55 (11) 4689-4900
✉ relacionamento@draeger.com

Locate your Regional Sales
Representative at:
www.draeger.com/contact