



More than the sum of their components

GAS DETECTION  
SYSTEMS



ST-0006-2004

## Innovation breeds continuity

When looking ahead to the future, it is sometimes worth taking a look back at the past: how much experience does your partner have? Does he follow in others' footsteps, or set new trends? Is he interested in short-term success, or long-lasting solutions? Is he known locally, or active globally? Does he offer "me-too" products, or innovations?

For over 70 years, Dräger Safety has been one of the technology leaders in gas detection. Our in-house research generates products which set new standards in terms of measurement accuracy, application and durability.

Drawing on our decades of experience, we make sure that the protection and monitoring equipment you use in your workplace, where harmful gases can be present, are state

of the art. The modular design of many of our systems guarantees that your safety concept will continue to meet all current and future requirements and that your investments will prove worthwhile even in years to come. New products are based upon existing product lines, therefore systems can be expanded, modified or modernized virtually whenever you choose using existing or new components.



STL-6064-2004



STLL-271-2004

In the field of gas detection systems, Dräger Safety has continuously evolved to become an internationally successful and enduring global player. We are represented by our own branch offices on all the continents. This local presence means you have a fixed and professional point of contact who has a full knowledge of your national, official and production-related standards, your workplace requirements and your hazard

potential – no matter whether it is a question of protecting human lives, industrial plants or buildings.

We base our customer relations on a long-term partnership so that you can rely on one single provider and are kept up-to-date at all times with the latest know-how and innovative solutions. We believe that quality, service and information are essential as we face the future together.



STL-135-2004

#### MILESTONES

- First electrochemical toxic sensor
- First infrared sensor used as a transmitter
- First intelligent plug and play sensor
- Maximum adaptability through modularity for the first time in the Dräger Polytron





## A good solution starts before the problem is even defined

Safety needs cannot be met by “off-the-peg” solutions, and a dependable protection concept cannot be planned responsibly without analysing the existing situation.

We do not offer rigid, inflexible solutions to your problems. Before we put together the perfect gas detection system to meet your requirements, we undertake a detailed analysis of your current situation, any legal requirements and your individual needs.

Thanks to our local presence, we can come and see your facility and buildings for ourselves; we then work together with you to determine the required safety standard and the necessary measures.

At the planning stage, we take the defined requirements and design a concrete solution which is tailored to your individual needs. Naturally, our technical concept also gives due consideration to the SIL target (Safety Integrity Level) required by your project.

When the gas detection system is installed, the entire process of putting the system into service begins. If you so wish, we can deliver and fit all the necessary components, run tests, set up all the connections, organize new internal

# Holistic Solutions



work processes and educate your staff until such time as the system is up and running to your full satisfaction.

Our extensive global Dräger Service network is at your service for routine and predictive maintenance. It also guarantees that competent help and assistance will be with you quickly and reliably if you have questions about operation of the system or if any technical problems arise. This means that the necessary spare parts and consumables can be delivered without delay, thus ensuring the continuous functionality of your safety system.

Maybe your requirements will change over the years, or perhaps you will reorganize your production processes, or expand your buildings. Maybe you are keen to ensure that you always use the latest technical standard – whatever

your needs, we maintain a constant dialogue with you. All our products are backward compatible, i.e. even new technological developments can be integrated into existing systems. The modularity of the design and of the equipment means that you can make extensions or changes at virtually any time. And if you ever need to take a system out of service, we can dispose of it for you in line with ecological requirements.

## PIONEERING SOLUTIONS

- Backward compatible components
- Solutions for different SIL targets
- Production and service from a single source
- Global presence
- Global approvals

# Customer Oriented Thinking

## More possibilities give rise to greater individuality

We focus on total solutions – our expertise lies in the perfect interaction of innovative products, technical know-how and customer-oriented thinking.

The primary objective of Dräger Safety gas detection systems is to warn against harmful gases with a focus on protecting human lives and industrial facilities. We develop our products and solutions in close cooperation with our customers, which allows us always to provide you with exactly what you need to achieve your individual protection goal.

Our detection technology is used in industry and business, in public buildings and indeed wherever people and property have to be protected against injury or damage. We monitor production facilities and warehouses, protect workplaces against gas hazards, warn against leaks, and provide breathing air in critical environments, buildings and in transportation.

Besides offering a uniquely wide range of sensors, detectors and technical components, we also provide every possible type of support, from maintenance, service and training to a comprehensive database containing information on more than 1,600 hazardous substances. We have extensive knowledge of the science of gases and vapours, and provide you with information in the form of detailed data sheets or via Internet, e.g. regarding technical properties and cross sensitivities.

DrägerSensors measure more than 400 flammable and toxic gases and oxygen in measurement ranges from % by volume to ppb. We have products featuring whichever detection technology you need: infrared absorption, electrochemical reaction and catalytic combustion. Products made by other manufacturers such as horns, warning lights and fans are compatible with our components; we even integrate them into the system ourselves. We meet approval requirements worldwide and play a major part in compiling and conforming to new standards.

Data for monitoring of harmful gases are reliably saved in control systems, and measurement results are displayed in such a way as to provide a timely warning of hazardous situations. Measures to eliminate the danger or to evacuate rooms or buildings are immediately triggered by the control and monitoring unit, wasting not a moment of precious time. Even the reliability of the sensors is regularly tested automatically during the self-test to ensure there are no gaps in the safety net.





### **DrägerSensors**

The advanced sensors used in the Dräger measuring heads are the heart of the gas detection system. DrägerSensors are developed in our own research laboratories and manufactured in-house. They are designed to work in perfect harmony with the respective control systems and components. Every one of the “smart” DrägerSensors is equipped with its own internal memory. The sensor performs an automatic self-test and gives a timely warning of any functional failure.

### **First-class technology**

- More than 400 gases can be measured
- All gas types can be detected: Ex, Tox, Ox
- All measurement ranges, from % by vol. to ppb
- Technologies: infrared, electrochemical reaction, catalytic bead

### **Predictive maintenance**

Predictive maintenance takes usage-related data into account to allow costs to be reduced by ensuring that sensors are not replaced before time.

### **Individual total solutions**

- Unique modular system
- Expertise in technology, consulting and service
- Extensive range of sensors



## EX-DETECTORS WITH CATALYTIC SENSORS

**Dräger Polytron SE Ex PR**  
Measuring head with DrägerSensor Ex PR and range of measurement from 0 to 100 % LEL.



ST-5671-2004

**Dräger Polytron SE Ex LC**  
Measuring head for DrägerSensor Ex LC for low concentrations of 0 to 10 % LEL.



ST-5669-2004

**Dräger Polytron SE Ex HT**  
Measuring head for DrägerSensor Ex PR HT in a metal housing for an extended temperature range of - 50 °C to 150 °C.



ST-5659-2004

**Dräger Polytron Ex**  
Transmitter for DrägerSensor Ex with display for one-person calibration.



ST-3838-2003

**Dräger PEX 3000**  
Family of low-cost 4 to 20 mA transmitters for DrägerSensor Ex with internal display and control elements.



ST-5675-2004

**Dräger Polytron 2 XP Ex**  
Explosion-proof transmitter for flammable gases with analogue and digital signal output, display and optional relay.



ST-45-2002

**Dräger Polytron FX**  
Low-cost, explosion-proof 4 to 20 mA transmitter with display for DrägerSensor Ex PR.



ST-46-2002

## DRÄGERSENSORS

**DrägerSensor (elch)**  
Electrochemical gas sensor for toxic gases and oxygen with integrated data memory.



ST-3829-2003

**DrägerSensor AC**  
Electrochemical gas sensor for detecting corrosive gas leaks.



ST-3806-2003

**DrägerSensor Ex PR**  
Catalytic sensor (pellistor) for detecting flammable gases using the catalytic bead principle in a concentration range of up to 100 % LEL.



ST-7769-2005

**DrägerSensor Ex LC**  
Catalytic bead sensor for detecting low concentrations of up to 10 % LEL.



ST-7770-2005

**DrägerSensor IR**  
Infrared optical sensor for detecting flammable gases with half-bridge interface.



ST-7767-2005



## EX-DETECTORS WITH INFRARED SENSORS

### Dräger Polytron IR Ex

Infrared optical transmitter with display for monitoring of flammable gases in the LEL concentration range.



ST-5643-2004

### Dräger Polytron IR Ex IL

Infrared optical transmitter with display for monitoring of flammable gases in the LEL concentration range with stainless steel flow cuvette.



ST-7999-2005

### Dräger Polytron IR Ex HC

Transmitter with small optical system, suitable for gases and vapours similar to propane in a measurement range of up to 100 % LEL.



ST-5678-2004

### Dräger PIR 7000

Explosion-proof infrared optical transmitter in an SS 316L housing for continuous monitoring of flammable gases and vapours, offering most stable measuring signals under harshest conditions.



ST-11659-2207

### Dräger Polytron IR

Explosion-proof infrared transmitter in a stainless steel housing for continuous monitoring of flammable gases and vapours with 4-beam optical system.



ST-3837-2003

### Dräger PIR 3000

Smart infrared optical sensor for detecting flammable gases of up to 100 % LEL.



ST-7766-2005

## OPEN PATH SYSTEMS

### Dräger Pulsar 2

Open path system for absorption measurement of gas clouds on a path of 4 to 200 metres between transmitter and receiver.



ST-3832-2005

## OPTICAL FLAME DETECTORS

### Dräger Flame 2300

Flame detector for hydrocarbon-based fire with combined detection in UV and IR spectrum.



ST-341-2004

### Dräger Flame 1700

Flame detector for different fire types with analysis in the ultraviolet spectrum.



ST-341-2004

### Dräger Flame 1300

Flame detector for hydrocarbon-based fire with analysis in the infrared spectrum.



ST-341-2004

### Dräger Flame 5000

A colour imaging based CCTV flame detector used to detect hydrocarbon fires.



ST-1125-2008

## TOX TRANSMITTERS FOR ELECTROCHEMICAL SENSORS

### Dräger Polytron 7000

Universal intrinsically safe transmitter for continuous monitoring of toxic gases and oxygen.



ST-3812-2003

### Dräger Polytron 7000 with pump

Universal intrinsically safe transmitter for continuous monitoring of toxic gases and oxygen with integrated pump.



ST-3818-2003

### Dräger Polytron 7000 with relay

Universal intrinsically safe transmitter for continuous monitoring of toxic gases and oxygen with integrated relay.



ST-3814-2003

### Dräger Polytron 7000 with remote sensor

Universal intrinsically safe transmitter for continuous monitoring of toxic gases and oxygen with remote sensor.



ST-3821-2003

### Dräger Polytron 7000 with duct mount kit

Universal intrinsically safe transmitter for continuous monitoring of toxic gases and oxygen with assembly kit for duct mounting.



ST-3825-2003

### Dräger Polytron 3000

Intrinsically safe low cost transmitter for monitoring of toxic gases and oxygen.



ST-3811-2003

### Dräger Polytron 3000 without display

Intrinsically safe low cost transmitter for monitoring of toxic gases and oxygen without display.



ST-3811-2003

### Dräger VarioGard 3000 Transmitter

Economical Transmitter without display for selected gases with digital bus.



D-6455-2010

### Dräger Polytron 2 XP Tox

Explosion-proof transmitter for continuous monitoring of toxic gases and oxygen.



ST-44-2002

### Dräger Polytron TX

Low-cost, explosion-proof transmitter for monitoring of toxic gases and oxygen.



ST-266-2001

### Dräger Polytron 3500

Fixed gas detector with integrated sampling pump and pyrolysis oven for continuous monitoring of fluorinated gases (NF<sub>3</sub>, C<sub>4</sub>F<sub>6</sub>, C<sub>5</sub>F<sub>8</sub>).



ST-3802-2005

### Dräger Polytron 7500

Universal fixed gas detector with integrated sampling pump and pyrolysis oven for continuous monitoring of fluorinated and chlorinated gases (e.g. NF<sub>3</sub>, SF<sub>6</sub>, C<sub>4</sub>F<sub>6</sub>, CHCl<sub>3</sub>).



ST-3804-2005

## TOX TRANSMITTERS WITH INFRARED SENSORS

### Dräger PIR 7200

Explosion-proof infrared optical transmitter in a stainless steel housing for continuous monitoring of carbon dioxide, suitable for industrial environments.



ST-1860-2007

### Dräger Polytron IR CO<sub>2</sub>

Infrared optical transmitter for continuous monitoring of carbon dioxide.



ST-5649-2004

### Dräger Polytron IR N<sub>2</sub>O

Infrared optical transmitter for continuous monitoring of nitrous oxide.



ST-5647-2004

## CONTROL SYSTEMS

### Dräger REGARD

Modular control system for complex gas warning systems with different plug-in cards and modules for installation in a 19" rack.



ST-340-2004

### Dräger REGARD 3900

Stand-alone, closed control system for gas warning systems. Configurable and expandable to up to 16 measurement channels.



ST-272-2004

### Dräger REGARD 1

Flexible and configurable single-channel control system for either one 4 to 20 mA transmitter or a Polytron SE Ex measuring head.



ST-335-2004

### Dräger REGARD 2400

Flexible small control unit mounted on a wall for 4 to 20 mA transmitters or Polytron SE Ex sensing heads.



ST-5647-2006

### Dräger REGARD 2410

Flexible small control unit mounted on a DIN rail for 4 to 20 mA transmitters or Polytron SE Ex sensing heads.



ST-5738-2006

### Dräger Vision 32

Visualization software for display of system information from REGARD control systems on a computer monitor.



ST-1438-2004

#### HEADQUARTERS

Dräger Safety AG & Co. KGaA  
Revalstrasse 1  
23560 Lübeck, Germany

[www.draeger.com](http://www.draeger.com)

#### SYSTEM CENTERS

##### P. R. CHINA

Beijing Fortune Draeger Safety  
Equipment Co., Ltd.  
A22 Yu An Rd, B Area,  
Tianzhu Airport Industrial Zone,  
Shunyi District,  
Beijing 101300  
Tel +86 10 80 49 80 00  
Fax +86 10 80 49 80 05

##### GERMANY

Dräger Safety AG & Co. KGaA  
Revalstrasse 1  
23560 Lübeck  
Tel +49 451 882-2794  
Fax +49 451 882-4991

##### FRANCE

Dräger Safety France SAS  
3c route de la Fédération, BP 80141  
67025 Strasbourg Cedex 1  
Tel +33 3 88 40 59 29  
Fax +33 3 88 40 76 67

##### SINGAPORE

Draeger Safety Asia Pte Ltd  
67 Ayer Rajah Crescent #06-03  
Singapore 139950  
Tel +65 68 72 92 88  
Fax +65 65 12 19 08

##### UNITED KINGDOM

Draeger Safety UK Ltd.  
Blyth Riverside Business Park  
Blyth, Northumberland NE24 4RG  
Tel +44 1670 352 891  
Fax +44 1670 544 475

##### USA

Draeger Safety, Inc.  
505 Julie Rivers, Suite 150  
Sugar Land, TX 77478  
Tel +1 281 498 1082  
Fax +1 281 498 5190