

## Dräger Polytron® 5100 EC Detection of toxic gases and vapors

The Dräger Polytron® 5100 EC is a cost-effective 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. A 2 or 3 wire 4-to-20 mA output with relays make it compatible with most control systems.



## Benefits

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### **Durable, intelligent and sensitive – the DrägerSensor®**

With unique electrochemical DrägerSensors, Polytron 5100 can detect over 100 toxic gases and oxygen. These long life sensors provide continuous detection even under the harshest conditions. DrägerSensors offer the industry's widest temperature range between -40°C to +65°C (-40°F to +150°F). The built-in memory contains all calibration and configuration information. Therefore the sensor ships pre calibrated, ready for immediate operation. The intrinsically safe connection of the sensor eliminates the need for a flame arrestor giving you faster response times and higher sensitivity.

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### **Same design, same operating principle**

Polytron 5100 belongs to the Dräger Polytron 5000 series. All transmitters in this series have the same design and user interface. This allows for uniform operation with reduced training and maintenance requirements.

The backlit display shows status information clearly with quick access to functions using a non-intrusive magnetic wand. The gas concentration and measurement unit are displayed during normal operation. Colored LEDs (green, yellow and red) provide additional alarm and status information.

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### **Three relays for controlling external equipment**

Upon request, the Dräger Polytron 5100 can also be supplied with three integrated relays. This enables you to use it as an independent gas detection system with two arbitrarily adjustable concentration alarms and one fault alarm. Audio alarms, signal lights, or similar devices can thus be controlled locally without an additional cable between the transmitter and central controller.

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### **Safe, robust housing for every application**

Polytron 5100 features a Class I, Div. 1 rated explosion proof enclosure made from aluminum or stainless steel, making it suitable for a wide range of environmental conditions. A protection type "e" version includes a convenient docking station which allows installation in hazardous atmospheres without running conduit (where approved).

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### **Remote sensor option does not require conduit**

The optional remote sensor enclosure enables the sensor to be installed away from the transmitter. This makes it easy to place the sensor close to a potential gas cloud in an inaccessible location while keeping the display at eye level. Because the sensor is connected to the transmitter through an intrinsically safe port, you don't need to run conduit for mounting a remote sensor. And to make things even easier, Dräger includes cabling up to 100 feet (30 meters) long. The intrinsically safe connection also allows 'hot swaps' of the sensor in a hazardous atmosphere without removing power or declassifying the area.

## System Components



D-27777-2009

### Dräger REGARD 3900

The Dräger REGARD 3900 is a standalone control system for the detection of toxic gases, oxygen levels, and Ex hazards. The control system is fully configurable between 1 and 16 channels, depending upon the type and quantity of input/output boards installed.



ST-335-2004

### Dräger REGARD-1

The Dräger REGARD-1 is a standalone single-channel control system for the detection of toxic and Ex hazards and oxygen levels. The control system is fully configurable for a single input from either a 4 to 20 mA transmitter or a Dräger Polytron® SE Ex measuring head.

## Accessories



D-85369-2013

### Splash guard

The Splash guard protects the sensor against splash water and dirt.

## Accessories



D-85345-2013

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### Duct mount kit

The duct mount kit enables gas monitoring inside ventilation ducts while keeping the transmitter outside.



D-85363-2013

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### Magnetic Wand

The magnetic wand is used to access and navigate the menu on the Polytron explosion proof detectors.



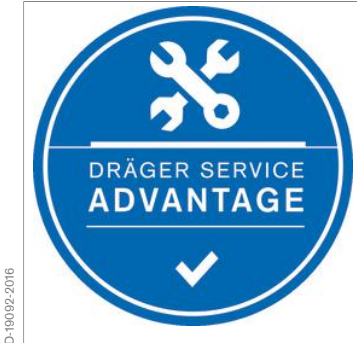
D-85362-2013

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### Pipe Mount Kit

The pipe mount kit is used to mount the Polytron explosion proof transmitters on pipes if there is no room to mount them elsewhere or if the pipes are going to be the source of gas leaks.

## Services



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### Dräger Service

When you rely on Dräger breath alcohol and drug screening equipment, you can rest assured you made the right choice. For more than 60 years, we've been the global market leader in advanced breath alcohol testing and employ cutting-edge technology to provide devices that are fast, reliable, and easy to use. That's the Dräger Service Advantage.

## Technical Data

### Dräger Polytron® 5100 EC

Type	Explosion proof / flameproof enclosed transmitter ("d") or combined with increased safety ("d/e")			
Gases	Toxic gases and oxygen, dependent on the sensor used			
Measuring ranges	Customized adjustment, see sensor data sheet			
Display	Backlit (3-wire) graphic LCD; 3 Status LEDs (green/yellow/red) (3-wire)			
Electrical data	Signal output analog	Normal operation	4 to 20 mA	
		Maintenance	Constant 3.4 mA or 4 mA ±1 mA 1 Hz modulation; (adjustable)	
		Fault	< 1.2 mA, 3-wire < 3 mA, 2-wire	
	Power supply	10 to 30 V DC, 3-wire 18 to 30 V DC, 2-wire		
	Power consumption (max.)	w/o relay, non-remote	80 mA at 24 V	
		w/ relay, remote	100 mA at 24 V	
	Relay specification (option)	2 alarm relays and 1 fault relay, SPDT 5 A @ 230 VAC, 5 A @ 30 VDC, resistance-bound		
Environmental conditions (see sensor data sheet)	Temperature	-40 to 65°C (-40 to 149°F) without relay -40 to 65°C (-40 to 149°F) with relay		
	Pressure	20.7 to 38.4 inch Hg / 700 to 1,300 mbar		
	Humidity	0 to 100% r. h., non-condensing		
Housing	Transmitter housing	Epoxy coated copper-free aluminum or stainless steel SS316 L		
	Sensor housing	Polyamide		
	Enclosure protection type	NEMA 4X & 7, IP65/66/67		
	Cable entry point	3/4" NPT threaded holes or M20 cable gland		
	Dimensions (H x W x D), approx.	w/o docking station	11.0" x 5.9" x 5.1" / 280 x 150 x 130 mm	
		w/ docking station	11.0" x 7.1" x 7.5" / 280 x 180 x 190 mm	
	Weight, approx.	w/o docking station Aluminum	6.6 lbs / 3.0 kg	
w/o docking station SS316 L		11.0 lbs / 5.0 kg		
w/ docking station Aluminum		10.0 lbs / 4.5 kg		
w/ docking station SS316 L		14.3 lbs / 6.5 kg		
Approvals*	UL	Class I, Div 1, Groups A, B, C, D; Class II, Div 1, Groups E, F, G; Class I, Zone 1, Group IIC; T-Code T6/T4		
	CSA	Class I, Div 1, Groups A, B, C, D; Class II, Div 1, Groups E, F, G; Class I, Zone 1, Group IIC; T-Code T6/T4		
	IECEX	Ex db [ia] IIC T6/T4 Gb, -40 ≤ Ta ≤ +40/+70°C; "d" version Ex db e [ia] IIC T6/T4 Gb, -40 ≤ Ta ≤ +40/+70°C; "e" version Ex tb [ia] IIIC T135°C Db		
	ATEX	II 2G Ex db [ia] IIC T6/T4 Gb, -40 ≤ Ta ≤ +40/+70°C; "d" version II 2G Ex db e [ia] IIC T6/T4 Gb, -40 ≤ Ta ≤ +40/+70°C; "e" version II 2D Ex tb [ia] IIIC T135°C Db		
	CE markings	ATEX (Directive 2014/34/EU)		

## Technical Data

Electromagnetic Compatibility (Directive 2014/30/EU)  
Low Voltage (Directive 2014/35/EU)

\* All docking station versions are only ATEX/IECEx approved

## Ordering Information

### Dräger Polytron® 5100 EC

Dräger Polytron® 5100 EC d A	83 44 860
Dräger Polytron® 5100 EC d A relay	83 44 121
Dräger Polytron® 5100 EC d S	83 44 862
Dräger Polytron® 5100 EC d S Relay	83 44 123
Dräger Polytron® 5x0 Kit (Custom configuration e. g. stainless steel housing)	83 44 500

### Accessories

Magnetic wand		45 44 101
Pipe mount bracket		45 44 198
Duct mount kit		68 12 725
Duct mount adapter for remote EC sensing head		83 17 617
Remote adapter RS stainless steel		83 23 404
EC Sensing Head Remote w/mount kit		68 12 684
IR Connection Kit Polytron® 5000/8000		45 44 197
PolySoft		83 23 405
PolySoft premium		83 23 411
Connection cable w/ plug for Remote EC	16 ft / 5 m	83 23 305
Sensing Head	49 ft / 15 m	83 23 315
	98 ft / 30 m	83 23 330
Splash guard		68 12 510
Gassing adapter	PE incl. tubing	45 09 314
Calibration adapter Viton®		68 10 536

### EC Sensors (Maximum Range, Field Adjustable)

DrägerSensor® AC Acidic Compounds 0–30 ppm	68 10 595
DrägerSensor® Cl <sub>2</sub> Chlorine 0-50 ppm	68 09 665
DrägerSensor® CO Carbon Monoxide 0-1,000 ppm	68 09 605
DrägerSensor® CO LS Carbon Monoxide 0–5,000 ppm	68 09 620
DrägerSensor® CO LH Carbon Monoxide 0–300 ppm	68 12 570
DrägerSensor® COCl <sub>2</sub> Phosgene 0–20 ppm	68 09 930
DrägerSensor® H <sub>2</sub> Hydrogen 0–3,000 ppm	68 09 685
DrägerSensor® H <sub>2</sub> O <sub>2</sub> HC Hydrogen Peroxide 0–7,000 ppm	68 09 675
DrägerSensor® H <sub>2</sub> O <sub>2</sub> LC Hydrogen Peroxide 0–300 ppm	68 09 705
DrägerSensor® H <sub>2</sub> S Hydrogen Sulfide 0–100 ppm	68 10 435
DrägerSensor® H <sub>2</sub> S HC Hydrogen Sulfide 0–1,000 ppm	68 09 710
DrägerSensor® H <sub>2</sub> S LC Hydrogen Sulfide 0–100 ppm	68 09 610
DrägerSensor® HCN Hydrogen Cyanide 0-50 ppm	68 09 650
DrägerSensor® HCN LC Hydrogen Cyanide 0–50 ppm	68 13 200
DrägerSensor® PH <sub>3</sub> /AsH <sub>3</sub> Phosphine/Arsine 0–10 ppm	68 09 695
DrägerSensor® Hydride 0–20 ppm	68 09 635
DrägerSensor® Hydride SC 0–1 ppm	68 09 980

## Ordering Information

DrägerSensor® N <sub>2</sub> H <sub>4</sub> Hydrazine 0–5 ppm	68 10 180
DrägerSensor® NH <sub>3</sub> HC Ammonia 0–1,000 ppm	68 09 645
DrägerSensor® NH <sub>3</sub> LC Ammonia 0–300 ppm	68 09 680
DrägerSensor® NH <sub>3</sub> TL Ammonia 0–300 ppm	68 13 095
DrägerSensor® NH <sub>3</sub> FL Ammonia 0–300 ppm	68 13 260
DrägerSensor® NO Nitric Oxide 0–200 ppm	68 09 625
DrägerSensor® NO <sub>2</sub> Nitrogen Dioxide 0–100 ppm	68 09 655
DrägerSensor® NO <sub>2</sub> LC Nitrogen Dioxide 0–20 ppm	68 13 205
DrägerSensor® O <sub>2</sub> Oxygen 0–100% Vol.	68 09 720
DrägerSensor® O <sub>2</sub> LS Oxygen 0–25% Vol.	68 09 630
DrägerSensor® O <sub>3</sub> Ozone 0–5 ppm	68 10 290
DrägerSensor® OV <sub>1</sub> Organic Vapors 0–200 ppm	68 10 740
DrägerSensor® OV <sub>2</sub> Organic Vapors 0–100 ppm	68 10 745
DrägerSensor® SO <sub>2</sub> Sulfur Dioxide 0–100 ppm	68 09 660

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