

## Dräger Polytron® 8100 EC Detector for toxic gases and oxygen

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 having a 3-wire 4 to 20 mA analog output with relays, it also offers HART®, Modbus and Fieldbus protocol, making it compatible with most control systems.



## Benefits

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

With unique electrochemical DrägerSensors, Polytron 8100 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 and humidity 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 and is ready for immediate operation. An intelligent sensor self-test function allows for predictive maintenance. 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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### **Easy device management via digital communication**

The Dräger Polytron 8100 is equipped with digital interfaces allowing for quick and easy remote interrogation of the transmitter's state. Integration with existing asset management systems such as PACTware™ is possible via DTM. In addition to the common HART® communication system, the fieldbus interfaces with PROFIBUS® PA, FOUNDATION fieldbus™ H1, and Modbus RTU are also available.

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

The Dräger Polytron 8100 belongs to the Polytron 8000 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 large graphic backlit display shows status information clearly and in an easy to use format. The measured gas concentration, selected gas type, and measuring unit are displayed during normal operation. Colored LEDs (green, yellow and red) provide additional alarm and status information. The Polytron 8100 is operated by means of a magnetic wand over contact surfaces.

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

Upon request, the Dräger Polytron 8100 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. Audible 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 8100 features a Class I, Div. 1 rated explosion proof enclosure made from epoxy coated aluminium or 316L stainless steel, making it suitable for a wide range of environmental conditions.

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

The remote sensor enclosure allows you to install the sensor separately from the transmitter. This 'external' installation makes it easier to use if the sensor has to be installed in a difficult to access or unfavorable position.

## Benefits

### More functions through dongles

With different software dongles, additional functions can be added to the Polytron 8100. The data logger dongle comes as standard and continuously records gas readings and events. A sensor test dongle is available for additional sensor self-test functionality. A third dongle is available for advanced sensor diagnosis. These dongles indicate the sensor's vitality, giving you an estimate of the sensor's remaining service life.

## System Components



D-6806-2016

### Dräger REGARD® 7000

The Dräger REGARD® 7000 is a modular and highly expandable control system for monitoring various gases and vapors. Ideal for gas warning systems with various levels of complexity and numbers of transmitters, the Dräger REGARD® 7000 delivers exceptionally reliability and efficiency. An additional benefit is the controller's backward compatibility with the REGARD®.



D-1130-2010

### Dräger REGARD® 3900 Series

The devices of the Dräger REGARD® 3900 series can be used as standalone controllers. You can configure up to 16 measuring channels. In addition, the modular setup enables you to customise the control units to the demands of your plant. You can also embed further features to existing alarms.

## Accessories



D-0188-2020

### Remote sensor

With the EC Sensing Head Remote, the sensor can be installed up to 30 metres away from the Polytron 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-85369-2013

### Splash guard

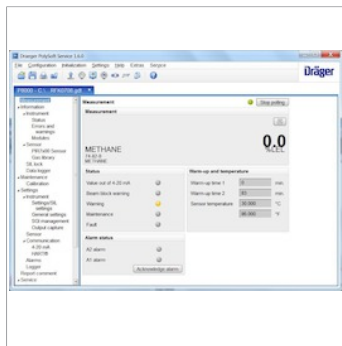
The Splash guard protects the sensor against splash water and dirt.



D-85345-2013

### Duct mount kit

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



D-4316-2019

### 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 to 20 mA signal. Out in the field, an available non intrusive IR dongle easily connects Polytron® to Polysoft.

## Technical Data

### Dräger Polytron® 8100 EC

Type	Explosion proof / flameproof enclosed transmitter ("d")			
Gases	Toxic gases and oxygen, dependent on the sensor used			
Measuring ranges	Customized adjustment, see sensor data sheet			
Display	Backlit graphic LCD; 3 Status LEDs (green/yellow/red)			
Performance Characteristics	see sensor datasheet			
Electrical data	Signal output analog	Normal operation	4 to 20 mA, 3- or 4-wire, sink or source	
		Maintenance	Constant 3.4 mA (adjustable)	
		Fault	< 1.2 mA	
	Signal output digital	HART® w/ 3- or 4-wire, PROFIBUS® PA, FOUNDATION fieldbus™ H1 and Modbus RTU w/ 5-wires		
	Power supply	10 to 30 V DC		
	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		
	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 aluminium 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.		11.0" x 5.9" x 5.1" /	
			280 x 150 x 130 mm	
	Weight, approx.	Aluminium	6.6 lbs / 3.0 kg	
SS316 L		11.0 lbs / 5.0 kg		
Approvals	UL & 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;		
	ATEX	II 2G Ex db [ia] IIC T6/T4 Gb, -40 ≤ Ta ≤ +40/+70 °C;		
	FM Performance (H <sub>2</sub> S sensor)	Certificate No: FM16NUS0015 FM 6340:2014, FM Class 3810:2005, ISA-92.00.01-2010		
	CE marking	ATEX (Directive 2014/34/EU)		
		Electromagnetic Compatibility (Directive 2014/30/EU)		
		Low Voltage (Directive 2014/35/EU)		
Marine approvals	DNV GL, ABS, LR, CSS, RMRS			
MED approval	Certificate no. MEDB0000411			
DEKRA Performance approval (for O <sub>2</sub> sensors only)	Certificate no. BVS 13 ATEX G 001 X EN 60079-29-16:2016			
SIL 2 certified by TÜV Sued	Certificate no. Z10 053474 0023			

## Ordering Information

<b>Dräger Polytron® 8100 EC</b>	<b>Approval Code</b>	<b>Order Number</b>
Dräger Polytron® 8100 EC d A 4-20/HART®	ETR 0400	83 44 403
Dräger Polytron® 8100 EC d A 4-20/HART® relay	ETR 0401	83 44 404
Dräger Polytron® 8100 EC d S 4-20/HART®	ETR 0500	83 44 412
Dräger Polytron® 8100 EC d S 4-20/HART® relay	ETR 0501	83 44 413
Dräger Polytron® 8xx0 Custom Configuration, e.g. Modbus – visit <a href="http://www.draeger.com/polytron">www.draeger.com/polytron</a> to configure yours		83 44 800
<b>Electrochemical DrägerSensors</b>		<b>Order Number</b>
DrägerSensor® AC		68 10 595
Initial Operation Set for DrägerSensor AC		68 09 381
DrägerSensor® Cl <sub>2</sub>		68 09 665
DrägerSensor® COCl <sub>2</sub>		68 09 930
DrägerSensor® CO		68 09 605
DrägerSensor® CO LS		68 09 620
DrägerSensor® CO LH		68 12 570
DrägerSensor® H <sub>2</sub>		68 09 685
DrägerSensor® H <sub>2</sub> O <sub>2</sub> HC		68 09 675
DrägerSensor® H <sub>2</sub> O <sub>2</sub> LC		68 09 705
DrägerSensor® H <sub>2</sub> S LC		68 09 610
DrägerSensor® H <sub>2</sub> S HC		68 09 710
DrägerSensor® H <sub>2</sub> S		68 10 435
DrägerSensor® HCl		68 09 640
DrägerSensor® HCN		68 09 650
DrägerSensor® HCN LC		68 13 200
DrägerSensor® Hydrides		68 09 635
DrägerSensor® Hydrides SC		68 09 980
DrägerSensor® PH <sub>3</sub> /AsH <sub>3</sub>		68 09 695
DrägerSensor® Hydrazine		68 10 180
DrägerSensor® NH <sub>3</sub> LC		68 09 680
DrägerSensor® NH <sub>3</sub> HC		68 09 645
DrägerSensor® NH <sub>3</sub> TL		68 13 095
DrägerSensor® NH <sub>3</sub> FL		68 13 260
DrägerSensor® NO LC		68 09 625
DrägerSensor® NO <sub>2</sub>		68 09 655
DrägerSensor® NO <sub>2</sub> LC		68 13 205
DrägerSensor® O <sub>3</sub>		68 14 005
DrägerSensor® O <sub>2</sub> LS		68 09 630
DrägerSensor® OV1		68 10 740
DrägerSensor® OV2		68 10 745
DrägerSensor® SO <sub>2</sub>		68 09 660
<b>Accessories</b>		<b>Order Number</b>
Magnetic wand		45 44 101
Sensor Test Dongle		83 17 619
Diagnostic Dongle		83 17 860
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

## Ordering Information

IR Connection Kit Polytron® 5000/8000		45 44 197
PolySoft licence (1 year)		83 28 639
PolySoft licence (subscription)		83 28 640
EC Sensing Head Remote w/ mount kit		68 12 684
Connection cable w/ plug for	16 ft / 5 m	83 23 305
Remote EC Sensing Head	49 ft / 15 m	83 23 315
	98 ft / 30 m	83 23 330
Splash guard		68 12 510
Weather protection kit Dräger Polytron® 5/6/8xxx		37 02 198
Calibration adapter FKM Viton®		68 10 536
Gassing adapter	PE incl. tubing	45 09 314
Dust filter (not for Cl <sub>2</sub> , HCl, H <sub>2</sub> O <sub>2</sub> , O <sub>3</sub> , N <sub>2</sub> H <sub>4</sub> )		68 09 595
Dust filter (SO <sub>2</sub> )		68 12 224
Selective filter A2F (CO, CO LS, H <sub>2</sub> )		68 09 684
Selective filter K2F (COCl <sub>2</sub> )		68 09 933
Selective filter NF (HCl)		68 09 643
Selective filter HSF (Hydrides)		68 09 862
Selective filter D3F (CO)		68 12 435
Selective filter MF (PH <sub>3</sub> , AsH <sub>3</sub> )		68 09 638
Selective filter K1F (SO <sub>2</sub> )		68 09 663

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### **CORPORATE HEADQUARTERS**

Drägerwerk AG & Co. KGaA  
Moislinger Allee 53–55  
23558 Lübeck, Germany  
[www.draeger.com](http://www.draeger.com)

### **USA**

Draeger, Inc.  
7256 S. Sam Houston Parkway W.,  
Suite 100  
Houston, TX 77085  
1 800 4DRAGER  
(1 800 437 2437)

### **CANADA**

Draeger Safety Canada, Ltd.  
2425 Skymark Ave., Unit 1  
Mississauga, Ontario L4W 4Y6  
1 877 DRAGER1  
(1 877 372 4371)

Locate your Regional  
Sales Representative at:  
[www.draeger.com/contact](http://www.draeger.com/contact)

