



Dräger Polytron 5100 EC Detector for toxic gases and oxygen

The Dräger Polytron 5100 EC is a cost-effective explosion-proof transmitter for the detection of toxic gases or oxygen in standard applications. 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 makes it compatible with most control systems.

Dräger Polytron 5100 EC



Benefits

Durable, intelligent and sensitive – the DrägerSensor

With the unique electrochemical Dräger sensors, the Polytron 5100 covers a total of 15 typical gases in various measuring ranges. 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 the necessary calibration and configuration information. The sensors are calibrated ready for immediate operation. The sensor's intrinsically safe connection dispenses with the need for a flame arrestor giving you a faster response time and higher sensitivity.

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. Coloured LEDs (green, yellow and red) provide additional alarm and status information.

Three relays for controlling external equipment

The Dräger Polytron 5100 can also be supplied with three integrated relays upon request. This enables you to use it as an independent gas detection system with two adjustable gas 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.

Safe, robust housing for every application

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

Make the impossible possible with remote sensor

The remote sensor connection housing allows you to install the sensor separately from the transmitter. This allows you to simply place the sensor closer to the gas cloud in hard-to-reach locations. The display remains visible at eye level. Since the sensor is connected via an intrinsically safe connection, no conduit cabling is required. The connection also allows 'hot replacement' of the sensor in the hazardous area.

System Components

D-1501-2022



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.

D-3967-2025



Dräger REGARD 3000 plus

The Dräger REGARD 3000 plus is a flexible control system that reliably monitors hazardous areas in your gas detection system and triggers alarms. Its modular design adapts to different system sizes and can be configured centrally or locally. A user-friendly dashboard and clear alarms provide transparency and safety.

Accessories



D-0188-2020

Remote Sensor EC

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-85349-2013

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.

Related Products



D-2947-2018

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 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.



ST-3811-2003_Display_ret

Dräger Polytron 3000

The Dräger Polytron 3000 is an intrinsically safe gas detector for the continuous monitoring of toxic gases and oxygen in ambient air. It is the part of a new generation of gas detectors developed on a modular platform. Communication to the central control system is done via a 4 to 20 mA signal.

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 depending on the sensor used
Measuring ranges	For customised adjustment, see sensor data sheet
Display	Backlit 4 digit LCD; 3 Status LEDs (green/yellow/red)
Performance Characteristics	see sensor datasheet

Electrical data

Signal output analog	Normal operation	4 to 20 mA
	Maintenance	Constant 3.4 mA
		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	
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 inches Hg / 700 to 1,300 mbar
Humidity	0 to 100 % RH, non-condensing

Housing

Transmitter housing	Powder coated copper-free aluminum or stainless steel 316 L	
Sensor housing	Polyamide	
Enclosure protection type	NEMA 4X & 7, IP65/66/67	
Cable entry point	Two 3/4" NPT port 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
Approx. weight	Aluminium w/o docking station	6.6 lbs / 3.0 kg
	Stainless steel 316 L w/o docking station	11.0 lbs / 5.0 kg
	Aluminium w/ docking station	9.9 lbs / 4.5 kg
	Stainless steel 316 L w/ docking station	14.3 lbs / 6.5 kg

Technical Data

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 Ga] IIC T6/T4 Gb, $-40 \leq T_a \leq +40/+70$ °C; 'd' version
	Ex db eb [ia Ga] IIC T6/T4 Gb, $-40 \leq T_a \leq +40/+70$ °C; 'e' version
	Ex tb [ia Da] IIIC T135°C Db
ATEX	II 2G Ex db [ia Ga] IIC T6/T4 Gb, $-40 \leq T_a \leq +40/+70$ °C; 'd' version
	II 2G Ex db eb [ia Ga] IIC T6/T4 Gb, $-40 \leq T_a \leq +40/+70$ °C; 'e' version
	II 2D Ex tb [ia Ga] IIIC T135 °C Db
CE markings	ATEX (Directive 2014/34/EU)
	Electromagnetic Compatibility (Directive 2014/30/EU)
	Low Voltage (Directive 2014/35/EU)
INMETRO	Ex db [ia Ga] IIC T6/T4 Gb, $-40 \leq T_a \leq +40/+70$ °C; 'd' version
	Ex db eb [ia Ga] IIC T6/T4 Gb, $-40 \leq T_a \leq +40/+70$ °C; 'e' version
	Ex tb [ia Da] IIIC T135 °C Db
KCs	Ex db [ia Ga] IIC T6/T4 Gb; 'd' version
	Ex db eb [ia] IIC T6/T4 Gb; 'e' version
	Ex tb [ia] IIIC T135°C Db
* All docking station versions are only ATEX/IECEX approved	

Ordering Information

Dräger Polytron 5100 EC	Approval Code	Order Number
Dräger Polytron 5100 EC d A	ETR 0200	8344860
Dräger Polytron 5100 EC d A relay	ETR 0201	8344121
Dräger Polytron 5100 EC d S	ETR 0300	8344862
Dräger Polytron 5100 EC d S relay	ETR 0301	8344123
Dräger Polytron 5100 EC e A (incl. Docking Station)	ETR 020I	8344124
Dräger Polytron 5100 EC e A relay (incl. Docking Station)	ETR 020J	8344125
Dräger Polytron 5xx0 Kit (Custom configuration e.g. stainless steel housing)		8344500

Electrochemical DrägerSensors	Order Number
DrägerSensor AC	6810595
DrägerSensor Cl ₂	6809665
DrägerSensor CO	6809605
DrägerSensor CO LH	6812570
DrägerSensor CO LS	6809620
DrägerSensor COCl ₂	6809930
DrägerSensor H ₂	6809685
DrägerSensor HCN	6813200
DrägerSensor H ₂ O ₂ LC	6809705
DrägerSensor H ₂ S	6810435
DrägerSensor H ₂ S HC	6809710
DrägerSensor H ₂ S LC	6809610
DrägerSensor Hydrides	6809635
DrägerSensor NH ₃ HC	6809645
DrägerSensor NH ₃ LC	6809680
DrägerSensor NH ₃ TH	6800055
DrägerSensor NH ₃ TL	6813095
DrägerSensor NO	6809625
DrägerSensor MEC NO LC (Order MEC adapter separately)	6812785
DrägerSensor NO ₂ LC	6813205
DrägerSensor O ₂	6809720
DrägerSensor O ₂ LS	6809630
DrägerSensor OV1	6810740
DrägerSensor OV2	6810745
DrägerSensor SO ₂	6809660

Ordering Information

Accessories		Order Number
Magnetic wand		4544101
Pipe mount bracket		4544198
Duct mount kit		6812725
Duct mount adaptor for remote EC sensing head		8317617
RS stainless steel remote adaptor		8323404
EC Sensing Head Remote w/mount kit		6812684
IR Connection Kit Polytron 5000/8000		4544197
PolySoft licence (1 year)		8328600
PolySoft licence (subscription)		8328601
Connection cable w/ plug for Remote EC Sensing Head	16 ft / 5 m	8323305
	49 ft / 15 m	8323315
	98 ft / 30 m	8323330
Splash guard		6812510
Weather protection kit Dräger Polytron 5/6/8xxx		3702198
Gassing adaptor	PE, Europe	6806978
	PE incl. tubing	4509314
Calibration adaptor Viton®		6810536
MEC Adapter für DrägerSensor XS		6812695

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