Dräger Polytron® 5100
Stationary Gas Detector (EC)

The microprocessor-based transmitter can be equipped with various electrochemical DrägerSensors to easily detect oxygen and various toxic gases in ambient air. In addition, the Polytron® 5100 can be integrated into your facility control and safety system, thus providing additional diagnostic functions.

SIMPLE INSTRUMENT MANAGEMENT AND SETUP

The Polytron 5100 instrument provides a simple, menu-driven user interface for quick configuration. Identifying the status and performing routine maintenance are made easy using simple commands. It can be installed in either "d" (flameproof) or "e" (increased-safety) configurations. The local display provides complete information including measurement, status indication, and any warning messages. The analogue output also allows for easy remote monitoring of the instrument and the area where it is located.

PROVEN – AND STILL IMPROVING: DRÄGER MEASUREMENT TECHNOLOGY

Dräger has been developing and manu-facturing sensors and gas detectors for industrial use for more than 40 years.

And with each new instrument generation, we drive our measurement technology a bit further. With the Polytron 5100, you will definitely benefit from this experience and power of innovation:
– durable sensors
– short response times
– high sensitivity
– high accuracy
– low sensitivity to other gases or changing ambient conditions

OPTIONAL: TWO MOUNTING SETS FOR EASY FLANGE-MOUNTING

The housing has four mounting holes. Two different mounting sets are available for installing the Polytron 5100: a duct-mount and a pipe-mount set. This means that the transmitter can be easily installed anywhere – e.g. on a smooth wall, a pipe, or an exhaust duct.

Dräger Polytron® 5100
Flameproof transmitter for monitoring toxic gases and oxygen.

Same Design, Same Operating Principle: The Polytron 5000 Series

The Dräger Polytron 5100 is part of the Polytron 5000 series. All transmitters of this series have the same design and user interface, which ensures a uniform operating philosophy. For you, this means: less training required and easier maintenance.

Other transmitters of the Polytron 5000 series:

– Dräger Polytron 5000GP
  (EC stationary gas detector)
– Dräger Polytron 5310
  (DSIR stationary gas detector)
– Dräger Polytron 5700
  (PIR 7000 stationary gas detector)
– Dräger Polytron 5720
  (PIR 7200 stationary gas detector)

OPTIONAL: THREE RELAYS FOR CONTROLLING EXTERNAL EQUIPMENT

On request, the Dräger Polytron 5100 can be equipped with three integrated relays. This enables you to use it as an independent gas detection system with two user-adjust able concentration alarms and one fault alarm. Audio alarms, signal lights, and similar devices can thus be controlled locally – without an additional cable between the transmitter and a central controller. The sensor signal can be monitored using the 4-to-20-mA signal.

INTELLIGENT SENSORS

The Dräger Polytron 5100 can detect a wide variety of gases. DrägerSensors are specifically designed for the demands of round-the-clock, year-round operation. The large DrägerSensor size gives them their renowned long life and superior measurement performance. The integrated sensor memory contains all relevant sensor data. This also allows the Polytron 5100 to accept the pre-calibrated DrägerSensors. The smart DrägerSensor EC downloads the gas type, calibration data, default alarm set points, and other measurement data onto the Polytron 5100.

POLYTRON 5100

Using proven, advanced electrochemical DrägerSensors for the best measurement performance, the Polytron 5100 offers a great cost-performance value to the user. It adds features that were not available in the previous model:
– 2- or 3-wire device
– 10 to 30 VDC 3-wire
  (18 to 30 VDC 2-wire)
– galvanic isolator sensor coupling
– 4-digit, 9-segment display, with
  backlight (3-wire mode only)
– 15 sensors available for XP operation
– optional relays (3-wire mode only)
– optional remote sensor mounting
– increased-safety (Ex e) version
  available

In addition, the Polytron 5100 can operate using the low-cost MEC sensors offered by Dräger. For more information on these sensors contact your local Dräger representative.
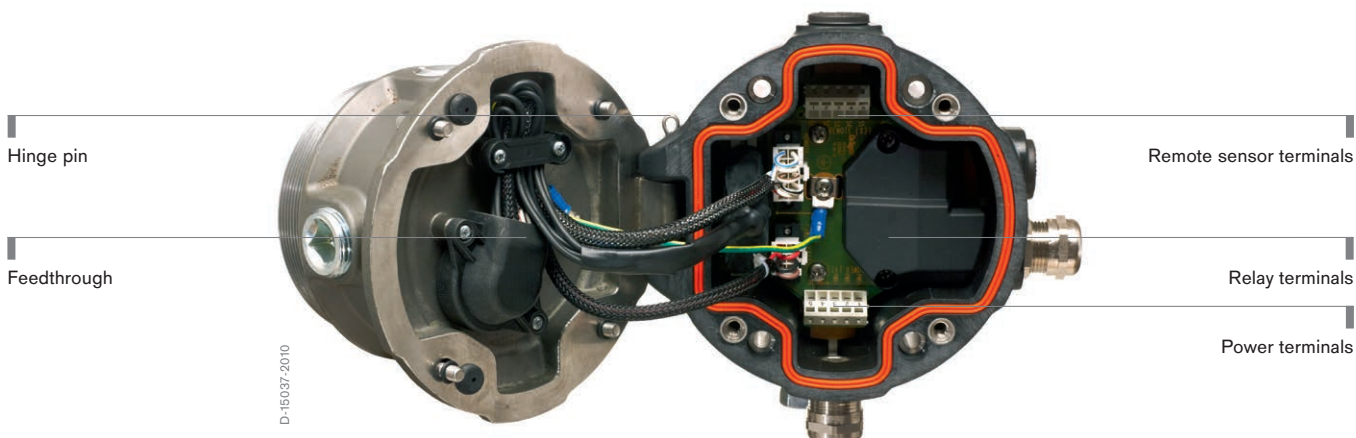
Accessories

Accessories for remote mount, duct or pipe mounting, and more, allow for use in a wide variety of applications.

FURTHER ADVANTAGES:

– Easy and cost-effective:
  one-person calibration
– Quick and easy wiring
– Available as flameproof or
  increased safety version
– Aluminium or 316 L stainless
  steel housing for the most
  extreme industrial conditions
– Extremely user-friendly software
  thanks to a minimum number of
  menu items
– Backlit display: easy to read,
  even in low light conditions.
– Traffic light status indicator
  (green = no danger, yellow = error,
  flashing red = gas alarm)
– Intelligent sensors for predictive
  maintenance
– User-adjustable measuring ranges
  (within permitted ranges)
– Matrix display allows the flexible
  setting of measuring ranges
  and units

DRÄGER POLYTRON 5100
UNIT CONFIGURED WITH DOCKING STATION
FOR "E" INSTALLATION (INCREASED SAFETY)

Hinge pin

Feedthrough

D-15037-2010

Remote sensor terminals

Relay terminals

Power terminals

TECHNICAL DATA

DRÄGER POLYTRON® 5100

Type	Flameproof "d" or combined increased-safety "d/e" transmitter		
Gases	Toxic gases and oxygen (depending on the sensor used)		
Measuring ranges	User-adjustable (see sensor data sheet)		
Display	Backlit 4-digit LCD; 3 status LEDs (green/yellow/red)		
Electrical data	Analogue signal output	Normal operation	4-to-20-mA
		Maintenance	Steady 3.4 mA or 3 to 5 mA 1 Hz modulation; user-selectable
		Fault	< 1.2 mA, 3-wire (< 3 mA, 2-wire)
	Supply voltage		10 to 30 V DC, 3-wire (18 to 30 V DC, 2-wire)
	Relay rating (option)		2 alarms, 1 fault relay, SPDT 1 A to 5 A @ 230 VAC, 0.1 A to 5 A @ 30 VDC, 0 resistive load
Ambient conditions (see sensor data sheet)	Temperature		-40 to +150 °F / -40 to +65 °C
	Pressure		20.7 to 38.4 inch Hg / 700 to 1,300 mbar
	Humidity		0 to 100% RH, non-condensing
Enclosure	Transmitter housing		Epoxy-coated copper-free aluminium or 316L stainless steel
	Sensor housing		Polyamide
	Enclosure rating		NEMA 4× & 7, IP65/66/67
	Cable entry		3/4" NPT female conduit or M20 cable gland
	Size (l × w × d, approx.)	without Docking Station	11.0" × 5.9" × 5.1" / 280 × 150 × 130 mm
		with Docking Station	11.0" × 7.1" × 7.5" / 280 × 180 × 190 mm
	Weight (approx.)	without Docking Station, aluminium	6.6 lbs / 3.0 kg
		without Docking Station, 316 stainless steel	11.0 lbs / 5.0 kg
		with Docking Station, aluminum	9.9 lbs / 4.5 kg
		with Docking Station, 316 stainless steel	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 d [ia] IIC T6/T4 Gb, -40 ≤ Ta ≤ +40/+70 °C; "d" version
			Ex de [ia] IIC T6/T4 Gb, -40 ≤ Ta ≤ +40/+70 °C; "e" version
			Ex tb [ia] IIIC T135 °C Db
	ATEX		II 2G Ex d [ia] IIC T6/T4 Gb, -40 ≤ Ta ≤ +40/+70 °C; "d" version
			II 2G Ex de [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 94/9/EC) Electromagnetic Compatibility (Directive 2004/108/EC) Low Voltage (Directive 2006/95/EC)

*) All "e" versions are only ATEX- / IECEX-approved.

ORDER INFORMATION

DRÄGER POLYTRON® 5100

	Aluminium "d"	SS316L "d"	Aluminium "e"	SS316L "e"
Without relays	45 44 860	45 44 862	45 44 124 *)	45 44 126 *)
With relays	45 44 121	45 44 123	45 44 125 **)	45 44 127 **)

*) Order Docking Station 68 12 420 for power-only wires separately.
**) Order Docking Station 68 12 275 for power and/or relay wires separately.

Magnetic wand for menu access (blue body, white logo)	45 44 101
Docking Station power-only version (includes 1 cable gland) / Docking Station	68 12 420
Docking Station Power, Relay and/or Remote version (includes 2 cable glands) / Docking Station	68 12 275
Cable Gland for use with Docking Station	68 12 868
Pipe Mount Kit	45 44 198
Duct Mount Kit	68 12 725
Duct Mount Adapter for Remote EC Sensing Head	83 17 617
EC Sensing Head Remote w/ mount kit	68 12 684
MEC Sensor Adapter	68 12 695
IR Connection Kit Polytron® 5000/8000 Series	45 44 197
PolySoft Configuration Software	83 23 405
Connection cable w/ plug for Remote EC Sensing Head	
16 ft / 5 m	83 23 305
49 ft / 15 m	83 23 315
98 ft / 30 m	83 23 330

DrägerSensors

PH_3/AsH_3	68 09 695	NO_2	68 09 655	O_2 LS	68 09 630	H_2S HC	68 09 710
Cl_2	68 09 665	H_2O_2 LC	68 09 705	NH_3 HC	68 09 645	OV1	68 10 740
CO	68 09 605	H_2S	68 10 435	NO LC	68 09 625	SO_2	68 09 660
H_2S LC	68 09 610	NH_3 LC	68 09 680	H_2	68 09 685		

Accessories

Splash guard	68 12 510
Calibration Adapter PE (with hose)	45 09 314
Calibration Adapter PE (without hose)	68 06 978
Calibration Adapter Viton®	68 10 536

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