

## Dräger Polytron® 8700 Stationary gas detector (PIR 7000)

Quick and reliable detection of combustible gases and vapours in the ambient air: the microprocessor-based Polytron® 8700 transmitter, which contains a new, innovative IR sensor with drift-free and resistant optics, can also be integrated into your digital fieldbus system, thus providing additional diagnostic functions.



### SIMPLE INSTRUMENT MANAGEMENT THANKS TO DIGITAL COMMUNICATION

With its HART® ability, the Dräger Polytron 8700 allows remote access using the Dräger PolySoft 8000 software for the quick and convenient evaluation of the instrument status. Integration in existing management systems (e.g. PactWare) is also possible using DTM. In addition, fieldbus systems such as Foundation Fieldbus or Profibus are supported by corresponding interfaces.

### EFFICIENT, STABLE AND ROBUST – DRÄGER PIR 7000

With short response times and a high signal stability, the Dräger PIR 7000 offers a high degree of safety – thanks to an extremely light-efficient optics with a 4-beam signal-stabilizing system. Another advantage is its low sensitivity to dust or

dirt deposits on the optical surfaces and to insects in the measuring cuvette, while offering a drift-free output signal and longer maintenance intervals.

### PROVEN – AND STILL GETTING BETTER: DRÄGER MEASUREMENT TECHNOLOGY

Dräger has been developing and manufacturing sensors and gas detectors for industrial use for more than 40 years. And with each new device generation, we drive our measurement technology a bit further. With the Polytron 8700, you will definitely benefit from this experience and power of innovation. Its sensors are based on an open, double-compensated optical infrared system.



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**Dräger Polytron® 8700**  
Flameproof transmitter for monitoring combustible gases

#### Same design, same operating principle: The Polytron 8000 series

The Dräger Polytron 8700 is part of the Polytron 8000 series. All transmitters of this series have the same design and user interface, which guarantees a uniform operating philosophy. Your advantage: less training requirement and easier maintenance.

#### Other transmitters of the Polytron 8000 series:

- Dräger Polytron 8000  
(EC stationary gas detector)
- Dräger Polytron 8200  
(CatEx stationary gas detector)
- Dräger Polytron 8310  
(DSIR stationary gas detector)
- Dräger Polytron 8720  
(PIR 7200 stationary gas detector)

### **LIBRARY CONTAINING UP TO 100 GASES (TYPES 334 AND 340)**

Each of the gases listed there can, for example, be cross-calibrated with vapours and preset gases, such as methane or propane. All calculations and linearisations are performed automatically.

### **OPTIONAL: THREE RELAYS FOR CONTROLLING EXTERNAL EQUIPMENT**

On request, the Dräger Polytron 8700 can be equipped 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 a central controller. The sensor signal can be evaluated using the 4-to-20-mA signal.

### **OPTIONAL: TWO MOUNTING SETS FOR EASY FLANGE-MOUNTING**

The housing has four mounting holes. Two different mounting sets are available for installing the Polytron 8700: 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.

### **FURTHER ADVANTAGES:**

- Easy and cost-effective: one-man calibration
- Quick and easy wiring
- Aluminium or 316L 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 the dark and without a flash light
- Traffic light status indicator (green = no danger, yellow = error, flashing red = gas alarm)
- Beam block warning signal if the optics are heavily contaminated
- Measuring ranges in the ppm, %LEL and Vol% range
- Matrix display allows the flexible setting of measuring ranges and units
- SIL 2 certified by the German TÜV Süd

## TECHNICAL DATA

### Dräger Polytron® 8700

Type	Flameproof transmitter			
Gases	Combustible gases and vapours			
Measuring ranges	ppm, %LEL or Vol.-%; user adjustable		0 to 20 up to 100% LEL, 0 to 100 Vol.-% CH <sub>4</sub> , 0 to 1,000 ppm C <sub>3</sub> H <sub>8</sub> , 0 to 20 up to 100 %LEL 0 to 5 Vol.-%	
Display	Backlit graphic LCD; 3 status LEDs (green/yellow/red)			
Electrical data	Analog signal output	Normal operation	4-to-20-mA	
		Maintenance	Steady 3.4 mA or 4 mA ± 1 mA 1 Hz modulation; user selectable	
		Fault	< 1.2 mA	
	Digital signal output	HART®		
	Supply voltage	10 to 30 VDC, 3-wire		
	Relay rating (Option)	2 alarm, 1 fault relay, SPDT 5 A @ 230 VAC, 5 A @ 30 VDC, resistive load		
	Ambient conditions (see also sensor data sheet)	Temperature without Relay	-40 to +176°F / -40 to +77°C	
Temperature with Relay		-40 to +158°F / -40 to + 70°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		
	Enclosure rating	NEMA 4X & 7, IP65/66/67		
	Cable entry	¾" NPT female conduit		
	Size (l × w × d, approx.)	5.9" × 11.4" × 5.1" / 150 × 290 × 130 mm		
	Weight (approx.)	aluminium	8.5 lbs / 3.9 kg	
		stainless steel	12.6 lbs / 5.7 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 T4/T6	
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 T4/T6		
IECEx		Ex d IIC T6/T4 Gb, -40 ≤ Ta ≤ +40/+80°C; Ex tb IIIC T80/130°C Db IP6x		
ATEX		II 2G Ex d IIC T6/T4 Gb, -40 ≤ Ta ≤ +40/+80°C; II 2D Ex tb IIIC T80/130°C Db IP6x		
CE markings		ATEX (Directive 94/9/EC)		
		Electromagnetic Compatibility (Directive 2004/108/EC) Low Voltage (Directive 2006/95/EC)		

\*) With relay Ta ≤ 70 °C

**ORDER INFORMATION****POLYTRON® 8700 TYPE 334 AND TYPE 340**

	<b>Aluminium</b>	<b>SS316L</b>
Without relays (Type 334)	45 44 601	45 44 610
With relays (Type 334)	45 44 602	45 44 611
Without relays (Type 340)	45 44 637	45 44 646
With relays (Type 340)	45 44 638	45 44 647
Magnetic wand for menu access (blue body, white logo)		45 44 101
Pipe Mount Kit		45 44 198
Duct Mount Kit Polytron 87X0 for PIR 7x00		68 12 300
Duct Mount Kit Flow Cell for PIR 7x00		68 11 945
Duct Mount Kit Bump Test Adapter for PIR 7x00		68 11 990
Status Indicator for PIR 7000		68 11 625
Splash Guard for PIR 7000		68 11 911
Flow Cell for PIR 7000		68 11 490
Bump Test Adapter for PIR 7000		68 11 630
Insect Guard for PIR 7x00		68 11 609
Hydrophobic Filter for PIR 7x00		68 11 890
Calibration Adapter for PIR 7x00		68 11 610
Process Adapter for PIR 7x00, POM (Polyoxymethylene)		68 11 915
Process Adapter for PIR 7x00, Stainless Steel		68 11 415
Junction Box Aluminium for Remote Mount 'd'		45 44 099
Junction Box Stainless Steel for Remote Mount 'd'		45 44 098
Spacer		68 12 617

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