

## Dräger Polytron® 5700 IR Flammable Gas Detection

The Dräger Polytron® 5700 IR is a cost effective explosion-proof transmitter for the detection of flammable gases in the lower explosive limit (LEL). It uses a high performance infrared Dräger PIR 7000 sensor that will quickly detect most common hydrocarbon gases. A 3-wire 4 to 20-mA analogue output with relays makes it compatible with most control systems.



## Benefits

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### **The Dräger PIR 7000 is efficient, stable and robust.**

With its stainless steel 316L enclosure and drift-free optics, the Dräger PIR 7000 is built to withstand the harshest industrial environments, offshore installations for example. The unique 4 beam signal stabilising system makes the sensor resistant to dust or dirt deposits on the optical surfaces. Environmental and ageing effects ensure a long term, drift-free operation. The integrated gas library with up to 100 gases provides a high degree of application flexibility. Each of the listed gases can be picked from a menu and automatically cross-calibrated with a standard calibration gas such as methane or propane. No need to consult the factory when applications change.

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### **Same design, same operating principles**

Polytron 5700 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.

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

The Dräger Polytron 5700 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 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 5700 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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### **Make the impossible possible with the remote sensor**

An available remote sensor conduit housing allows the PIR sensor to be installed up to 30 metres away from the Polytron transmitter. A special calibration flow cell accessory enables one person to perform a full calibration of a remote mounted sensor from the transmitter.

## System Components



D-27777-2009

### Dräger REGARD® 3900

The Dräger REGARD® 3900 is a standalone, self contained control system for the detection of Toxic, Oxygen 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, self contained single channel control system for the detection of Toxic, Oxygen and Ex hazards. 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-16035-2010

### Docking station

The docking station is included with all transmitters in the Polytron® 5000 and Polytron® 8000 series for protection type “e”, increased safety. This also facilitates pre-assembly.

## Accessories



ST-11679-2007

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### Splash guard

The Splash guard protects the sensor against splashes of water and dirt.



D-86345-2013

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### Duct mount kit

The duct mounting kit enables gas monitoring inside ventilation ducts while the transmitter remains outside.

## Technical Data

### Dräger Polytron® 5700 IR

Type	Explosion-proof / flameproof enclosed transmitter ("d") or combined with increased safety ("d/e")			
Gases	flammable gases and vapours			
Measuring ranges	Methane, propane, ethylene	0 to 20 ... 100 % LEL		
	Methane	0 to 100 vol. %		
	Further substances and measuring ranges upon request			
Display	Backlit graphic LCD; 3 Status LEDs (green/yellow/red)			
Electrical data	Signal output analogue	Normal operation	4 to 20-mA	
		Maintenance	Constant 3.4-mA or 4-mA ±1 mA 1 Hz modulation; (adjustable)	
		Fault	< 1.2 mA	
	Power supply	10 to 30 V DC, 3-wire		
	Power consumption (max.)	w/o relay, non-remote	300-mA at 24 V	
		w/ relay, remote	350-mA at 24 V	
	Relay specification (optional)	2 alarm relays and 1 fault relay, single-pole two-way contact 5 A @ 230 VAC, 5 A @ 30 VDC, resistance-bound		
	Environmental conditions (see sensor data sheet)	Temperature	-40 to 77°C (-40 to 170°F) without relay -40 to 70°C (-40 to 158°F) with relay	
		Pressure	20.7 to 38.4 inch Hg / 700 to 1,300 mbar	
		Humidity	0 to 100 % RH, non-condensing	
Housing	Transmitter housing	Epoxy coated copper-free aluminum or stainless steel SS316 L		
	Sensor housing	Stainless steel SS316 L		
	Enclosure protection type	NEMA 4X & 7, IP65/66/67		
	Cable entry point	3/4" NPT threads or M20 cable gland		
	Approx. dimensions (H x W x D)	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.	Aluminium w/o docking station	8.6 lbs / 3.9 kg	
SS316 L w/o docking station		12.6lbs / 5.7 kg		
Aluminium w/ docking station		11.5 lbs / 5.2 kg		
SS316 L w/ docking station		15.7 lbs / 7.1 kg		
Approvals*	UL	Class I, Div 1, Groups B, C, D; Class II, Div 1, Groups E, F, G; Class I, Zone 1, Group IIC; T-Code T6/T4		
		Class I, Div 1, Groups B, C, D; Class II, Div 1, Groups E, F, G; Class I, Zone 1, Group IIC; T-Code T6/T4 CSA C22.2 No. 152		
	CSA	Class I, Div 1, Groups B, C, D; Class II, Div 1, Groups E, F, G; Class I, Zone 1, Group IIC; T-Code T6/T4 CSA C22.2 No. 152		
	IECEX	Ex db IIC T6/T4 Gb, -40 ≤ Ta ≤ +40/+80°C; "d" version Ex db e IIC T6/T4 Gb, -40 ≤ Ta ≤ +40/+80°C; "e" version Ex tb IIIC T80/130°C Db		
	ATEX	II 2G Ex db IIC T6/T4 Gb, -40 ≤ Ta ≤ +40/+80°C; "d" version II 2G Ex db e IIC T6/T4 Gb, -40 ≤ Ta ≤ +40/+80°C; "e" version II 2D Ex tb IIIC T80/130°C Db		
	CE markings	ATEX (Directive 2014/34/EU)		
		Electromagnetic Compatibility (Directive 2014/30/EU) Low Voltage (Directive 2014/35/EU)		

## Technical Data

Performance approval

BVS 15 ATEX G 001 X

\* All docking station versions are ATEX/IECEX approved

## Ordering Information

### Dräger Polytron® 5700 IR

Dräger Polytron® 5700 IR 334 d A	83 44 220
Dräger Polytron® 5700 IR 334 d A relay	83 44 221
Dräger Polytron® 5700 IR 334 e A (incl. Docking Station)	83 44 224
Dräger Polytron® 5700 IR 334 e A relay (incl. Docking Station)	83 44 225
Dräger Polytron® 5700 IR 340 d A	83 44 240
Dräger Polytron® 5700 IR 340 d A relay	83 44 241
Dräger Polytron® 5700 IR 340 e A (incl. Docking Station)	83 44 244
Dräger Polytron® 5700 IR 340 e A relay (incl. Docking Station)	83 44 245
Dräger Polytron® 5xx0 Kit (Custom configuration e. g. stainless steel housing)	83 44 500

### Accessories

Magnetic wand	45 44 101
Pipe bracket	45 44 198
Duct mounting kit	68 12 300
Duct mounting kit Flow Cell for PIR 7x00	68 11 945
Duct mounting kit Bump Test Adaptor 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	83 23 405
Bump Test Adaptor for PIR 7000	68 11 630
Insect guard for PIR 7x00	68 11 609
Hydrophobic filter for PIR 7x00	68 11 890
Calibration adaptor for PIR 7x00	68 11 610
Process adaptor for PIR 7x00, POM (Polyoxymethylene)	68 11 915
Process adaptor for PIR 7x00, stainless steel	68 11 415
Aluminum junction box for remote sensor 'd'	45 44 099
Stainless steel junction box for remote sensor 'd'	45 44 098
Spacer	68 12 617
Dräger PIR 7000 334 for remote sensor 'e' variant	68 11 825
Dräger PIR 7000 340 for remote sensor 'e' variant	68 11 819

## Notes