Dräger Polytron® 5700 IR
Detection of flammable gases and vapors

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

Dräger. Technology for Life®

Benefits

Efficient, stable and robust – the Dräger PIR 7000

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

Same design, same operating principle

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

Three relays for controlling external equipment

Upon request, the Dräger Polytron 5700 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. Audio 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

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).

Make the impossible possible with the remote sensor

An available remote sensor condulet housing allows the PIR sensor to be installed up to 30 meters (100 feet) away from the Polytron transmitter. A special calibration flow cell accessory permits 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 control system for the detection of toxic gases, oxygen levels, 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 single-channel control system for the detection of toxic gases, oxygen levels, 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-15035-2010

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

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.

Technical Data

Dräger Polytron® 5700 IR

Type	Explosion proof / flameproof enclosed transmitter (“d”) or combined with increased safety (“d/e”)		
Gases	flammable gases and vapors		
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 analog	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 (option)	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 % r. h., 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 threaded holes 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
	Weight, approx.	w/o docking station Aluminum	8.6 lbs / 3.9 kg
		w/o docking station SS316 L	12.6lbs / 5.7 kg
		w/ docking station Aluminum	11.5 lbs / 5.2 kg
		w/ docking station SS316 L	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	
	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 only 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 mount bracket	45 44 198
Duct mount kit	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	83 23 405
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
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

Notes

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