

Dräger Polytron® 5700 IR Detector for flammable gases and vapours

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

Efficient, stable and robust – The Dräger PIR 7000

With its stainless steel SS 316L enclosure and drift-free optics, the Dräger PIR 7000 is built to withstand the harshest industrial environments, offshore installations for example. The unique double compensated 4 beam measuring system makes the sensor resistant to dust or dirt deposits on the optical surfaces, environmental or ageing effects and long term drift. In combination with the Polytron 5700 it offers a gas library with up to 100 gases providing 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.

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.

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. 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

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) and this also facilitates pre-assembly.

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-6806-2016

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-1130-2010

Dräger REGARD® 3900 Series

The devices of the Dräger REGARD® 3900 series can be used as standalone controllers. You can configure up to 16 measuring channels. In addition, the modular setup enables you to customise the control units to the demands of your plant. You can also embed further features to existing alarms.

Accessories



ST-11679-2007

Splash guard

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

Accessories

D-85345-2013



Duct mount kit

The duct mount kit enables gas monitoring inside ventilation ducts while keeping the transmitter outside.

D-10965-2014



Process cuvette SGR

For sampling and in-line applications – reduces the inner volume of the measuring cuvette, thus providing a faster speed of response under flow conditions – made of stainless steel.

ST-11895-2007



Flow cell

Function test/calibration of the transmitter in high wind forces and/or high test gas concentration, including status display, suitable for process applications.

Related Products

D-14983-2010



Dräger Polytron® 8700 IR

The Dräger Polytron® 8700 IR is an advanced explosion proof transmitter for the detection of combustible 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. Besides a 3 wire 4 to 20 mA analogue output with relays, it also offers HART®, Modbus and Fieldbus making it compatible with most control systems.

ST-11659-2007



Dräger PIR 7000

The Dräger PIR 7000 is an explosion proof point infrared gas detector for continuous monitoring of flammable gases and vapours. With its stainless steel SS 316L enclosure and drift-free optics this detector is built for the harshest industrial environments, e.g. offshore installations.

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 4 digit LCD; 3 Status LEDs (green/yellow/red)			
Performance Characteristics	Accuracy/repeatability	Sensitivity	≤± 1 % LEL	
		Long term drift	≤± 1 % LEL after 12 month	
	Response time	T90	4 seconds (w/o splash guard)	
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		
	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.	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 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 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 eb 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 eb 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)			

Technical Data

	Low Voltage (Directive 2014/35/EU)
Performance approval	TÜV 19 ATEX 8435X
* All docking station versions are ATEX/IECEX approved	

Ordering Information

Dräger Polytron® 5700 IR (incl. splash guard and status indicator)	Approval Code	Order Number
Dräger Polytron® 5700 IR 334 d A	ITR 0210	83 44 220
Dräger Polytron® 5700 IR 334 d A relay	ITR 0211	83 44 221
Dräger Polytron® 5700 IR 334 d S	ITR 0310	83 44 222
Dräger Polytron® 5700 IR 340 d A	ITR 0220	83 44 240
Dräger Polytron® 5700 IR 340 d A relay	ITR 0221	83 44 241
Polytron® 5xx0 Kit (Custom configuration e.g. stainless steel housing)		83 44 500
Accessories		Order Number
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
PolySoft licence (1 year)		68 28 600
PolySoft licence (subscription)		68 28 601
PolySoft Premium licence (1 year)		83 28 639
PolySoft Premium licence (subscription)		83 28 640
Process cuvette for PIR 7x00, POM (Polyoxymethylene)		68 11 915
Process cuvette for PIR 7x00, stainless steel		68 11 415
Process cuvette for PIR 7x00, SGR		68 13 219
Aluminium 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
HART® is a registered trademark of the HART Communication Foundation.		
Windows® is a registered trademark of Microsoft Corporation.		

Notes

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