

## Dräger Polytron® 8700 IR Detection of flammable gases and vapors

The Dräger Polytron® 8700 IR is an advanced explosion proof transmitter for the detection of hydrocarbon gases in the lower explosion limit (LEL) and ppm. 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 analog output with relays, it also offers HART®, Modbus and Fieldbus making it compatible with most control systems.



## Benefits

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### Efficient, stable and robust – the Dräger PIR 7000

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

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### Choose a target gas with the smart gas library

Polytron 8700 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. The measuring range can be freely adjusted between 0 – 350 ppm and 0 – 100 % LEL enabling a wide variety of applications. No need to consult the factory when applications change.

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### Easy device management via digital communication

The Dräger Polytron 8700 is equipped with digital interfaces allowing for quick and easy remote interrogation of the transmitter's state. Integration with existing asset management systems such as PactWare is possible via DTM. In addition to the common HART® communication system, the fieldbus interfaces PROFIBUS PA, FOUNDATION Fieldbus H1, and Modbus RTU are also available.

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### Same design, same operating principle

The Dräger Polytron 8700 belongs to the Polytron 8000 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 large graphic backlit display shows status information clearly and in an easy to use format. The measured gas concentration, selected gas type, and measuring unit are displayed during normal operation. Colored LEDs (green, yellow and red) provide additional alarm and status information. The Polytron 8700 is operated by means of a magnetic wand over contact surfaces.

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### Three relays for controlling external equipment

Upon request, the Dräger Polytron 8700 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. Audible 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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### Data logger

The Polytron 8700 has a data logger, which records measuring and event data from the past years. A graph function displays the history of the past 15 minutes on a time/concentration graph.

## Benefits

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### Safe, robust housing for every application

Polytron 8700 features a Class I, Div. 1 rated explosion proof enclosure made from aluminium or stainless steel, making it suitable for a wide range of environmental conditions. The included splash guard features a chimney effect that actively draws ambient air inside enabling gases to be detected in under 10 seconds.

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### Make the impossible possible with the remote sensor

A remote explosion proof junction allows installation of the sensor up to 100' away from the transmitter in difficult to access areas. A convenient flow cell allows for remote bump testing or calibration from the Polytron display by using permanently attached tubing that takes the calibration gas to the sensor.

## System Components



### Dräger REGARD® 7000

The Dräger REGARD® 7000 is a modular and highly expandable control system for monitoring various gases and vapors. Ideal for gas warning systems with various levels of complexity and numbers of transmitters, the Dräger REGARD® 7000 delivers exceptional reliability and efficiency. An additional benefit is the controller's backward compatibility with the REGARD®.

## System Components



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



D-95346-2013

### Duct mount kit

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



D-16865-2014

### Process Cuvette SGR

Sampling or process applications, fast response behavior through minimum inner volume, material: Stainless steel.

## Accessories

ST-11698-2007



### 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 or for remote sensor installations.

D-2950-2018



### Remote Sensor Junction Box

The explosion-proof junction box allows remote mounting of CatEx sensor with cabling lengths over 300 feet. A plug and play sensor interface makes installation easy.

D-853162-2013



### Pole Mounting Kit

Attach Polytron® 5000/8000 series to a pole or pipe using clamps (not included)



### Polytron® Calibration Kit

Basic calibration kit with zero gas cylinder and space for a span gas cylinder. Includes all the needed accessories in a convenient carrying case.

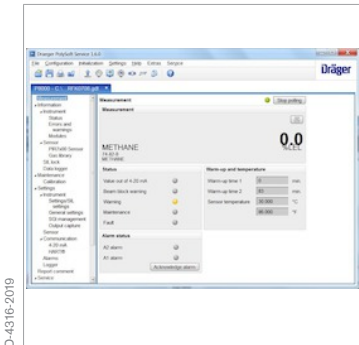
## Accessories



ST-11881-2007

### Calibration Adapter PIR 7000

Fits over the splash guard. Allows bump testing or calibration with span gas without having to remove the splash guard. Not included in calibration kit.



D-4316-2019

### Dräger Polysoft software

The optional Dräger Polysoft Windows® software is used for configuration, firmware upgrades, diagnostics, and downloading the Polytron's built in datalogger. All from the comfort of your control room using the digital HART® signal that rides on top of the analog 4 to 20 mA signal. Out in the field, an available non intrusive IR dongle easily connects Polytron® to Polysoft.

## Technical Data

### Dräger Polytron® 8700 IR

Type	Explosion proof / flameproof enclosed transmitter ("d")			
Gases	Flammable hydrocarbon gases and vapors			
Measuring range	Methane, propane, ethylene	0 to 20 ... 100 % LEL		
	250+ tested substances	0 to 350 ppm ... 100 % LEL		
	Methane	0 to 100 % vol.		
Display	Backlit graphic 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 analog	Normal operation	4 to 20 mA, 3- or 4-wire, sink or source	
		Maintenance	Constant 3.4 mA (adjustable)	
		Fault	< 1.2 mA	
	Signal output digital	HART® w/ 3- or 4-wire; PROFIBUS® PA, FOUNDATION fieldbus™ H1 and Modbus RTU w/ 5-wires		
	Power supply	10 to 30 V DC		
	Power consumption (max.)	w/o relay, non-remote	330 mA at 24 V	
		w/ relay, remote	350 mA at 24 V	
	Relay specification (option)	2 alarm relays and 1 fault relay, SPDT 5 A @ 230 VAC, 5 A @ 30 VDC		
	Environmental conditions (see sensor data sheet)	Temperature	-40 to +171 °F (-40 to +77 °C) without relay	
			-40 to +158°F (-40 to +70°C) 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 aluminium 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)	11.0" x 5.9" x 5.1" / 280 x 150 x 130 mm		
	Weight, approx.	Aluminium	4.9 lbs / 2.2 kg	
		SS316 L	8.8 lbs / 4.0 kg	
Approvals	UL/CSA	Class I, Div 1, Groups A, B, C, D;		
		Class I, Zone 1, Group IIC;		
		T-Code T6/T4		
		CSA C22.2 No. 152		
	IECEX	Ex Approval	Ex db IIC T6/T4 Gb, -40 ≤Ta ≤ +40/+80 °C;	
		Performance Approval	IEC 60079-29-1:2016-07 Ed: 2.0. Certificate No.: IECEX TUR 20.0049X	
	ATEX	II 2G Ex db IIC T6/T4 Gb, -40 ≤ a ≤ +40/+70 °C;		
	CE markings	ATEX (Directive 2014/34/EU)		
		Electromagnetic Compatibility (Directive 2014/30/EU)		
		Low Voltage (Directive 2014/35/EU)		
	Shipping approvals	DNV GL, ABS, LR, CCS, RMRS		
	MED approval	Certificate No. MEDB0000411		
	DEKRA Performance approval	Certificate No. BVS 13 ATEX G 001 X		
SIL 2 certified by TUEV Sued	Certificate no. Z10 053474 0023			

## Ordering Information

Dräger Polytron® 8700 IR (incl. splash guard and status indicator)	Approval Code	Order Number
Dräger Polytron® 8700 IR 334 d A 4-20/HART®	ITR 0410	83 44 601
Dräger Polytron® 8700 IR 334 d A 4-20/HART® relay	ITR 0411	83 44 602
Dräger Polytron® 8700 IR 334 d S 4-20/HART®	ITR 0510	83 44 610
Dräger Polytron® 8700 IR 334 d S 4-20/HART® relay	ITR 0511	83 44 611
Dräger Polytron® 8700 IR 340 d A 4-20/HART®	ITR 0420	83 44 637
Dräger Polytron® 8700 IR 340 d A 4-20/HART® relay	ITR 0421	83 44 638
Dräger Polytron® 8xx Custom Configuration Kit e.g. Modbus – visit <a href="http://www.draeger.com/polytron">www.draeger.com/polytron</a> to configure yours		83 44 800

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
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
Aluminum junction box for remote sensor 'd'	45 44 099
Stainless steel junction box for remote sensor 'd'	45 44 098

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FOUNDATION fieldbus™ is a registered trademark of the Fieldbus Foundation™.

PROFIBUS® is a registered trademark of PROFIBUS and PROFINET International (PI).

PACTware™ is a registered trademark of Pepperl+Fuchs GmbH.

Windows® is a registered trademark of Microsoft Corporation.



## Notes

## Notes

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