

Dräger PIR 7200

The Dräger PIR 7200 is an explosion proof point infrared gas detector for continuous monitoring of carbon dioxide. Designed for the industrial use, the transmitter offers drift-free optics. And due to its robust product design the Dräger PIR 7200 can be operated even in harsh environments.



Advanced signal stability

Almost two decades after launching the first fixed infrared gas detector – followed by a great market success with more than 100,000 units sold – Dräger now introduce the Dräger PIR 7200 which encompasses the latest in revolutionary technology.

Based on patented innovations, the Dräger PIR 7200 combines a maximum light collecting construction with a 4-beam signal stabilising system. The total optical system uses no light beam split, simply a set of various reflectors. This double-compensating optical system is very resistant towards known influences such as dust, fog or insects frequently found in the measuring cuvette or by dirt accumulation on the optical surfaces. Due to its non-imaging construction, the measuring signal is not affected by a partial beam block.

This innovative optical system ensures that the Dräger PIR 7200 fulfils the customer requirements in industrial applications of “no false alarms”, longer service intervals and a drift-free signal output.

Fast response

Equally important is being informed about a potential hazard as early as possible. An early and reliable gas alarm allows for safety measures to be initiated on site.

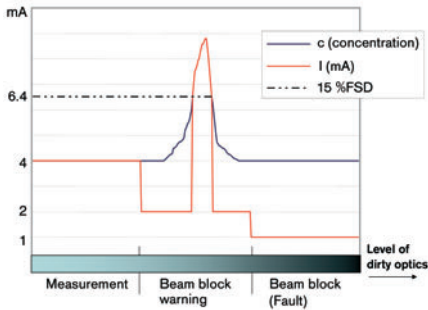
To support this, the Dräger PIR 7200 offers a configurable response mode which allows the end user to choose between “normal” or “high speed” response subject to the application. Using the “high speed” option, and combining it with the lowest feasible alarm threshold, the Dräger PIR 7200 shortens the reaction time in case of an alarm. Leakages can be detected at the earliest stage of their existence.



reddot design award
winner 2008



Dräger PIR 7200
Configurable IR gas detector for
reliable detection of carbon dioxide



Beam block warning

Special warning informs about contaminated optical surfaces – providing the possibility to schedule preventive maintenance

Multiple configuration capabilities

The Dräger PIR 7200 is delivered with the optimum default settings, but remains fully flexible to meet with the customers demands on an application-by-application basis. Whether it be reduced or increased measuring ranges or configurable special signals (fault, beam block warning, maintenance) – these features of the Dräger PIR 7200 offer the possibility to set up every device exactly to the customer’s needs and preferences.

Maximum reliability – SIL 2 certified

Years of experience in manufacturing gas detectors using infrared technology lead to a continuously enhanced product quality. Now, the Dräger PIR 7200 is further advanced as the total product has been developed inline with the Functional Safety standard EN 61508. This is applicable to both the devices hardware and software.

Furthermore, the excellent parameters as detailed in the SIL 2 (Safety Integrity Level) certificate, issued by the German TÜV, show that only 2 % from the entire SIL 2 budget is allocated to the field device, thus providing flexibility to choose control systems and actuators.

This is a new understanding of reliability – not only fulfilling but exceeding the SIL 2 requirements significantly.

Enclosure made of stainless steel SS 316L

Various accessories to be installed

Sapphire window

Contact area for magnetic wand – no extra tool for calibration

Heated optics

Coated reflector



ST-11664-2007

Dräger PIR 7200 offers:

- Linearised response characteristics for carbon dioxide
- Multiple mounting and configuration capabilities (signals acc. to NAMUR NE 43)
- Precise and stable measurement
- Fastest response of less than 1 second
- Beam block warning in case of dirty optics for preventive maintenance
- Long maintenance intervals
- Extended temperature range of up to + 77 °C / + 170 °F
- Double-compensating, non-imaging optics (using 4-beam technology)
- Single cable multidrop capability using HART® communication
- Conventional 4 to 20 mA analogue signal output
- Hermetically sealed SS 316L enclosure
- No moving parts
- Resistant towards shock and vibration up to 4 G
- Continuous self-testing in the context of the IEC/EN 61508 standard
- Developed and manufactured according to the SIL guidelines, SIL 2 certified by TÜV
- Ex approvals for worldwide application: ATEX, IECEx, UL, CSA
- Dust approval for zone 21 and 22
- Typical lifetime greater than 15 years



ST-11680-2007

Splash guard

Protects the measuring cuvette against splash and jet water, rain, dirt and insects – supports the fast response with its chimney effect – easy to retrieve as well during night due to its reflecting white stripes



ST-11676-2008

Junction box

Advanced junction box (Ex e approved) with large inner volume – easy and convenient handling – flexible installation possible by rotatability (four times 90°)

ORDER INFORMATION

Dräger PIR 7200

Dräger PIR 7200 (NPT) HART	68 11 572
Dräger PIR 7200 (M25) HART	68 11 570

Accessories

Mounting set	68 11 648
Duct mount set	68 11 850
Ex e junction box	68 11 898
Splash guard	68 11 912
Insect guard	68 11 609
Hydrophobic filter	68 11 890
Calibration adapter	68 11 610
Status indicator	68 11 920
Flowcell	68 11 910
Bump test adapter	68 11 930
Process adapter	68 11 915
Process cuvette	68 11 415
Magnetic wand	45 43 428
USB PC adapter	68 11 663



ST-11688-2007

Process cuvette

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

TECHNICAL DATA

Dräger PIR 7200

Type	Explosion proof gas transmitter with infrared sensor technology		
Principle of operation	Temperature-compensated infrared absorption, 4-beam technology		
Gases and ranges	Carbon dioxide (CO ₂)	0 to 10 % vol. (default) 0 to 2,000 ppm ... 30 % vol. (configurable)	
Measuring performance (carbon dioxide, 0 to 10 % vol.)	Digital resolution	0.02 % vol.	
	Repeatability	≤ ± 0.1 % vol.	
	Response time t _{0.90}	≤ 4 seconds ("normal response") < 1 second ("fast response")	
	Long-term drift	≤ ± 0.03 % vol. after 12 months	
Electrical data	Output signals	4 to 20 mA, HART®	
	Fault signal	≤ 1.2 mA (configurable)	
	Beam block warning signal	2 mA (configurable)	
	Maintenance signal	3 mA (configurable)	
	Power supply	13 to 30 V DC, 3-wire	
	Power consumption	5.6 W (typical)	
Ambient conditions	Temperature	- 40 to + 77 °C / - 40 to + 170 °F (operating) - 40 to + 85 °C / - 40 to + 180 °F (storage)	
	Humidity	0 to 100 %RH	
	Pressure	700 to 1300 hPa / 23.6 to 32.5 inch Hg	
Enclosure	Material	Stainless steel SS 316L	
	Connecting thread	M25 or ¾" NPT	
	Weight	2.2 kg (without accessories)	
	Dimensions	160 mm x Ø 89 mm / 6.3 " x Ø 3.5 "	
	Ingress protection	IP 66 and IP 67, NEMA 4X	
Approvals	ATEX	II 2G Ex d(e) IIC T6/T4 II 2D Ex tD A21 IP65 T80 °C/T130 °C	
		IECEX	Ex d IIC T6/T4 Ex tD A21 IP65 T80 °C/T130 °C
	UL (Classified)	Class I, Div. 1, Groups A, B, C, D Class II, Div. 1, Groups E, F, G	
		CSA (C-US)	Class I, Div. 1, Groups B, C, D Class II, Div. 1, Groups E, F, G
	Safety Integrity Level	SIL2 certified by TÜV (EN 61508, EN 50402)	
	CE mark: electromagnetic compatibility (directive 89/336/EEC)		

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