

Hydrogen Sulfide Sensor

Provides H₂S gas detection in remote areas of rigs

Applications

- For use as a complement to the standard H₂S sensor on a rig

Features and benefits

- Aluminum sensor housing
- Mounting sets for ducts and pipes
- Waterproof enclosure
- Nonintrusive calibration and maintenance
- Easy installation
- High sensitivity
- Long-term stability

Tool Description

The hydrogen sulfide sensor detects H₂S gas on the drilling rig. Used as a complement to the standard H₂S sensor on the rig, it provides detection in remote rig areas, such as the pit room, drill floor, shaker room, or in the sample line. The sensor is fitted with an electrochemical sensing element made of microfuel cells that are completely sealed to eliminate maintenance and to remain stable for long periods. Instead of a surface area calculation, a gas-in-liquid chemical reaction is used to detect the gas.

Certifications

The H₂S sensor has the approvals listed in the following table:

UL, CSA	Class I, Division 1, Groups A, B, C, and D
	Class II, Division 1, Groups E, F, G
	Class I, Zone 1, Group IIC, T-Code T6/T4
	-40°F ≤ Ta ≤ 104°F (-40°C ≤ Ta ≤ 40°C/80°C)
ATEX, IECEx	II 2G Ex d IIC T6/T4 Gb, -40°F ≤ Ta ≤ 104°F (-40°C ≤ Ta ≤ 40°C/80°C)
	I 2D Ex tb IIIC T80/130°C Db, -40°F ≤ Ta ≤ 104°F (-40°C ≤ Ta ≤ 40°C/80°C)
CE mark	ATEX (directive 94/9/EC)
	Electromagnetic compatibility (directive 2004/108/EC)
	Low voltage (directive 2006/95/EC)

The enclosure meets these certification standards:

- NEMA 4X and 7
- IP 65/66/67



The hydrogen sulfide sensor is easy to install for detecting H₂S in remote areas of rigs.



Hydrogen Sulfide Sensor

Specifications

Brand	Drager	
Model	Polytron 5000	
Materials	E,S; cast aluminum, epoxy painted	
Weight	5.9 lb (2.7 kg)	
Size	9.5 × 5.8 × 5.1 in. (240 × 150 × 130 mm)	
Sensor type	Electrochemical, nonconsuming	
Sensor life	2 to 3 years	
Supply voltage	24 Vdc (12 to 36 Vdc)	
Output signal	4 to 20 mA	
Zero	4.00 mA ±0.1 mA	
Accuracy	±2.5% of reading	
Typical response time	<60 seconds for 90% response to a step change	
Cable	Two-wire, 14 to 24 AWG	
Sensitivity	1 ppm	
LDL	0.5 ppm	
Range	0 to 100 ppm	
Location	Pit room, drill floor, shaker room, scalper shakers, possum belly, sample line	
Operating temperature	-40 to 122°F (-40 to 50°C)	
Humidity	Sensor	15 to 90% RH continuous, operating, noncondensing
	Transmitter	0 to 99% RH, noncondensing operating and storage

