

# DrägerSensor® XXS H<sub>2</sub>S

## DrägerSensor® XXS E H<sub>2</sub>S

Order no. 68 10 883  
68 12 213

Used in	Plug & Play	Replaceable	Guaranty	Expected sensor life	Selective filter
Dräger Pac 7000	no	yes	3 years	> 5 years	no
Dräger Pac 7000 5Y	no	yes	5 years	> 5 years	no
Dräger X-am 5000	no	yes	3/5 years	> 5 years	no
Dräger X-am 5600	no	yes	3/5 years	> 5 years	no
Dräger X-am 8000	no	yes	3/5 years	> 5 years	no

### MARKET SEGMENTS

Waste disposal, petrochemical, fertilizer production, sewage, mining and tunneling, shipping, inorganic chemicals, steel, pulp and paper, organic chemicals, oil and gas, hazmat, biogas.

### TECHNICAL SPECIFICATIONS

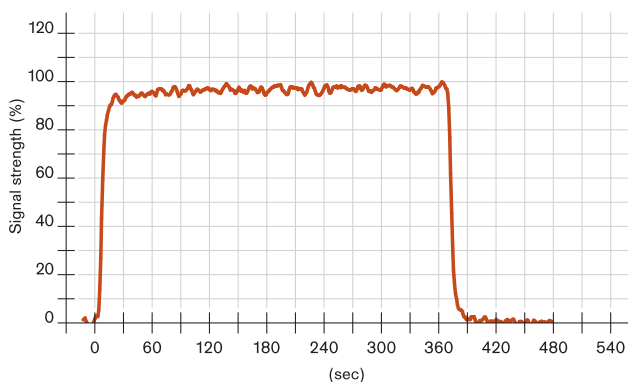
<b>Detection limit:</b>	2 ppm
<b>Resolution:</b>	1 ppm
<b>Measurement range:</b>	0 to 200 ppm H <sub>2</sub> S (hydrogen sulfide)
<b>Response time:</b>	≤ 15 seconds (T <sub>90</sub> )
<b>Measurement accuracy</b>	
Sensitivity:	≤ ± 2% of measured value
<b>Long-term drift, at 20°C (68°F)</b>	
Zero point:	≤ ± 1 ppm/year
Sensitivity:	≤ ± 3% of measured value/year
<b>Warm-up time:</b>	≤ 5 minutes
<b>Ambient conditions</b>	
Temperature*:	(-40 to 50)°C (-40 to 122)°F
Humidity*:	(10 to 90)% RH
Pressure:	(700 to 1,300) hPa
<b>Influence of temperature</b>	
Zero point:	No effect
Sensitivity:	≤ ± 5% of measured value
<b>Influence of humidity</b>	
Zero point:	No effect
Sensitivity:	≤ ± 0.03% of measured value/% RH
<b>Test gas:</b>	approx. 5 to 180 ppm H <sub>2</sub> S

\*Sudden temperature or humidity changes lead to dynamic effects (fluctuations).  
These dynamic effects decrease within 2 to 3 minutes.

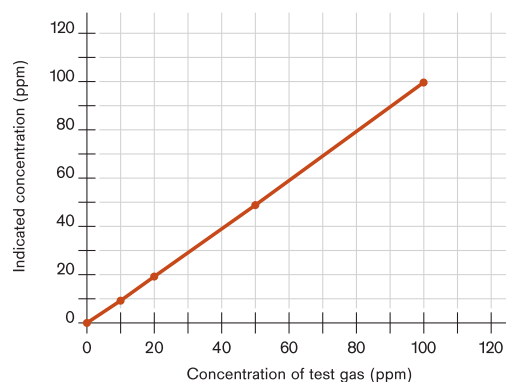
## SPECIAL CHARACTERISTICS

This sensor's advantages include fast response times and excellent linearity. At concentrations up to 20 ppm, sulfur dioxide has hardly any effect on hydrogen sulfide readings. This enables the selective measurement of the gas concentration using the DrägerSensor® XXS SO<sub>2</sub> (with integrated selective filter) together with the DrägerSensor® XXS H<sub>2</sub>S in a device such as a Dräger X-am 5000 or X-am 5600

Sensor reaction to H<sub>2</sub>S at 20 °C/68 °F  
Flow = 0.5 l/min, with 10 ppm H<sub>2</sub>S



Linearity of H<sub>2</sub>S sensor  
calibrated with 20 ppm H<sub>2</sub>S



D-27851-2009

The values shown in the following table are standard and apply to new sensors. The values may fluctuate by  $\pm 30\%$ . The sensor may also be sensitive to additional gases (for more information, please contact Dräger). Gas mixtures may be displayed as the sum of all components. Gases with a negative cross sensitivity may displace an existing concentration of H<sub>2</sub>S. To be sure, please check if gas mixtures are present.

## RELEVANT CROSS-SENSITIVITIES DRÄGERSENSOR® XXS H<sub>2</sub>S

Gas/vapor	Chem. symbol	Concentration	Display in ppm H <sub>2</sub> S
Acetylene	C <sub>2</sub> H <sub>2</sub>	100 ppm	No effect
Ammonia	NH <sub>3</sub>	200 ppm	No effect
Carbon dioxide	CO <sub>2</sub>	5 Vol.-%	No effect
Carbon monoxide	CO	500 ppm	No effect
Chlorine	Cl <sub>2</sub>	10 ppm	$\leq 2^{(-)}$
Dimethyl disulfide	CH <sub>3</sub> SSCH <sub>3</sub>	20 ppm	$\leq 5$
Dimethylsulfide	(CH <sub>3</sub> ) <sub>2</sub> S	20 ppm	$\leq 5$
Ethanol	C <sub>2</sub> H <sub>5</sub> OH	250 ppm	no effect
Ethyl mercaptan	C <sub>2</sub> H <sub>5</sub> SH	20 ppm	$\leq 12$
Hydrogen	H <sub>2</sub>	2 Vol.-%	$\leq 18$
Hydrogen chloride	HCl	40 ppm	No effect
Hydrogen cyanide	HCN	50 ppm	No effect
Isobutylene	(CH <sub>3</sub> ) <sub>2</sub> CCH <sub>2</sub>	100 ppm	No effect
Methane	CH <sub>4</sub>	5 Vol.-%	No effect
Methyl mercaptan	CH <sub>3</sub> SH	20 ppm	$\leq 15$
Nitrogen dioxide	NO <sub>2</sub>	20 ppm	$\leq 5^{(-)}$

(-) Indicates negative deviation

**RELEVANT CROSS-SENSITIVITIES DRÄGERSENSOR® XXS H<sub>2</sub>S**

Gas/vapor	Chem. symbol	Concentration	Display in ppm H <sub>2</sub> S
Nitrogen monoxide	NO	30 ppm	No effect
Propane	C <sub>3</sub> H <sub>8</sub>	1 Vol.-%	No effect
sec-Butyl mercaptan	C <sub>4</sub> H <sub>10</sub> S	20 ppm	≤ 5
Sulphur dioxide	SO <sub>2</sub>	20 ppm	≤ 2
tert- Butyl mercaptan	(CH <sub>3</sub> ) <sub>3</sub> CSH	20 ppm	≤ 6
Tetrahydrothiophene	C <sub>4</sub> H <sub>8</sub> S	20 ppm	≤ 3

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Acetylene	C <sub>2</sub> H <sub>2</sub>	100 ppm	no effect
Ammonia	NH <sub>3</sub>	200 ppm	no effect
Carbon dioxide	CO <sub>2</sub>	5 Vol.-%	no effect
Carbon monoxide	CO	500 ppm	no effect
Chlorine	Cl <sub>2</sub>	10 ppm	≤2 <sup>(-)</sup>
Ethanol	C <sub>2</sub> H <sub>5</sub> OH	250 ppm	no effect
Hydrogen	H <sub>2</sub>	0.1 Vol.-%	no effect
Hydrogen chloride	HCl	40 ppm	no effect
Hydrogen cyanide	HCN	50 ppm	no effect
Isobutylene	(CH <sub>3</sub> ) <sub>2</sub> CCH <sub>2</sub>	100 ppm	No effect
Methane	CH <sub>4</sub>	5 Vol.-%	no effect
Nitrogen dioxide	NO <sub>2</sub>	20 ppm	≤5 <sup>(-)</sup>
Nitrogen monoxide	NO	30 ppm	no effect
Propane	C <sub>3</sub> H <sub>8</sub>	1 Vol.-%	no effect
Sulphur dioxide	SO <sub>2</sub>	20 ppm	≤ 2