

# DrägerSensor® XXS H<sub>2</sub>S/CO

Order no. 68 11 410

Used in	Plug & Play	Replaceable	Guaranty	Expected sensor life
Dräger X-am 5000	no	yes	2 years	> 3 years
Dräger X-am 5600	no	yes	2 years	> 3 years
Dräger X-am 8000	no	yes	2 years	> 3 years

## Selective filter

Internal selective filter for CO.

Cross sensitivities to alcohol and acid gases (H<sub>2</sub>S, SO<sub>2</sub>) are eliminated.

The filter's service life can be calculated as follows: 25,000 ppm x hours of contaminant gas. Example: Given constant concentration of 10 ppm H<sub>2</sub>S will be: Service life = 25,000 ppm x hours / 10 ppm = 2,500 hours.

## MARKET SEGMENTS

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

## TECHNICAL SPECIFICATIONS

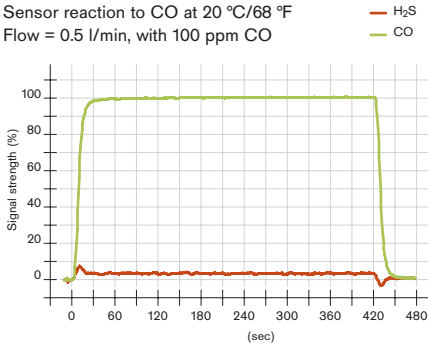
<b>Detection limit:</b>	2 ppm (H <sub>2</sub> S)/6 ppm (CO)
<b>Resolution:</b>	1 ppm (H <sub>2</sub> S)/2 ppm (CO)
<b>Measurement range:</b>	0 to 200 ppm H <sub>2</sub> S (hydrogen sulfide) 0 to 2,000 ppm CO (carbon monoxide)
<b>Response time:</b>	≤ 20 seconds (t <sub>90</sub> )
<b>Precision</b>	
<b>Sensitivity:</b>	≤ ± 2% of measured value
<b>Long-term drift, at 20°C (68°F)</b>	
<b>Zero point:</b>	≤ ± 2 ppm/year
<b>Sensitivity:</b>	≤ ± 1% of measured value/month
<b>Warm-up time:</b>	≤ 5 minutes
<b>Ambient conditions</b>	
<b>Temperature*:</b>	(-40 to 50)°C (-40 to 122)°F
<b>Humidity*:</b>	(10 to 90)% RH
<b>Pressure:</b>	(700 to 1,300) hPa
<b>Influence of temperature</b>	
<b>Zero point:</b>	≤ ± 2 ppm (H <sub>2</sub> S) ≤ ± 5 ppm (CO)
<b>Sensitivity:</b>	≤ ± 5% of measured value (H <sub>2</sub> S) ≤ ± 0.3% of measured value/K (CO)
<b>Influence of humidity</b>	
<b>Zero point:</b>	No effect
<b>Sensitivity:</b>	≤ ± 0.05% of measured value/% RH
<b>Test gas:</b>	approx. 5 to 90 ppm H <sub>2</sub> S approx. 20 to 450 ppm CO

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

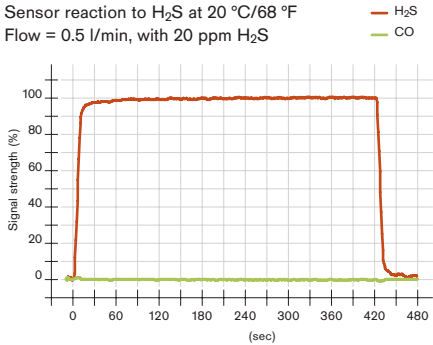
## SPECIAL CHARACTERISTICS

Carbon monoxide and hydrogen sulfide occur together in many areas of work. This sensor can monitor both gases simultaneously.

Sensor reaction to CO at 20 °C/68 °F  
Flow = 0.5 l/min, with 100 ppm CO



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



D-27843-2009

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 CO or H<sub>2</sub>S. To be sure, please check if gas mixtures are present.

## RELEVANT CROSS-SENSITIVITIES

Gas/vapor	Chem. symbol	Concentration	Display in ppm H <sub>2</sub> S	Display in ppm CO
Acetylene	C <sub>2</sub> H <sub>2</sub>	100 ppm	No effect	≤ 200
Ammonia	NH <sub>3</sub>	100 ppm	No effect	No effect
Carbon dioxide	CO <sub>2</sub>	30 vol. %	No effect	No effect
Carbon monoxide	CO	100 ppm	No effect	100
Chlorine	Cl <sub>2</sub>	20 ppm	≤ 2 (-) <sup>1)</sup>	No effect
Dimethyl disulfide	CH <sub>3</sub> SSCH <sub>3</sub>	20 ppm	≤ 11	No effect
Dimethylsulfide	(CH <sub>3</sub> ) <sub>2</sub> S	20 ppm	≤ 5	No effect
Ethanol	C <sub>2</sub> H <sub>5</sub> OH	250 ppm	No effect	No effect
Ethyl mercaptan	C <sub>2</sub> H <sub>5</sub> SH	20 ppm	≤ 13	no effect
Hydrogen	H <sub>2</sub>	0.1 vol. %	No effect	≤ 350
Hydrogen chloride	HCl	40 ppm	No effect	No effect
Hydrogen cyanide	HCN	50 ppm	No effect	No effect
Hydrogen sulfide	H <sub>2</sub> S	20 ppm	20	No effect
Isobutylene	(CH <sub>3</sub> ) <sub>2</sub> CCH <sub>2</sub>	100 ppm	No effect	No effect
Methane	CH <sub>4</sub>	5 vol. %	No effect	No effect
Methyl mercaptan	CH <sub>3</sub> SH	20 ppm	≤ 16 ppm	≤ 16 ppm
Nitrogen dioxide	NO <sub>2</sub>	20 ppm	≤ 5 (-) <sup>1)</sup>	No effect
Nitrogen monoxide	NO	30 ppm	No effect	≤ 5
Propane	C <sub>3</sub> H <sub>8</sub>	1 vol. %	No effect	No effect
sec-Butyl mercaptan	C <sub>4</sub> H <sub>10</sub> S	20 ppm	≤ 7	No effect
Sulphur dioxide	SO <sub>2</sub>	25 ppm	≤ 2	No effect
tert- Butyl mercaptan	(CH <sub>3</sub> ) <sub>3</sub> CSH	20 ppm	≤ 8	No effect
Tetrahydrothiophene	C <sub>4</sub> H <sub>8</sub> S	20 ppm	≤ 3	No effect

(-) <sup>1)</sup> negative reading