

# DrägerSensor® XXS H<sub>2</sub>S LC/CO LC

Order no. 68 13 280

Used in	Plug & Play	Replaceable	Guaranty	Expected sensor life
Dräger Pac 8500	no	yes	2 years	> 3 years
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

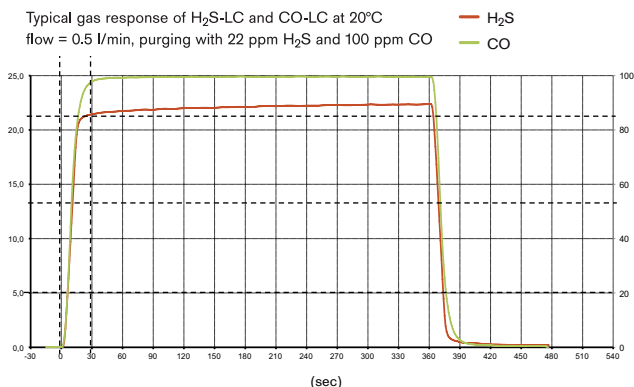
<b>Detection limit:</b>	0,4 ppm (H <sub>2</sub> S)/1 ppm (CO)
<b>Resolution:</b>	0.1 ppm (H <sub>2</sub> S)/1 ppm (CO)
<b>Measurement range:</b>	0 to 100 ppm H <sub>2</sub> S (hydrogen sulfide) 0 to 2,000 ppm CO (carbon monoxide)
<b>Response time:</b>	≤ 20 seconds (T <sub>90</sub> )
<b>Measurement accuracy</b>	
Sensitivity:	H <sub>2</sub> S: ≤ ± 5 % of measured value, CO: ≤ ± 2 % of measured value
<b>Long-term drift, at 20°C (68°F)</b>	
Zero point:	H <sub>2</sub> S: ≤ ± 0,2 ppm/year, CO: ≤ ± 2 ppm/year
Sensitivity:	H <sub>2</sub> S: ≤ ± 5 % of measured value/year, CO: ≤ ± 3 % of measured value/year
<b>Warm-up time:</b>	H <sub>2</sub> S: ≤ 5 minutes, CO: ≤ 30 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:	H <sub>2</sub> S: no effect, CO: ≤ ± 5 ppm
Sensitivity:	H <sub>2</sub> S: ≤ ± 5 % of measured value, CO: ≤ ± 0.3 % of measured value/K
<b>Influence of humidity</b>	
Zero point:	No effect
Sensitivity:	H <sub>2</sub> S: ≤ ± 0.1 % of measured value/ %r.h., CO: ≤ ± 0.02 % of measured value/ %r.h.
<b>Test gas:</b>	approx. 5 to 90 ppm H <sub>2</sub> S approx. 20 to 1800 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. Because of the low detection limits, this sensor is suitable for the limit-value monitoring.



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. H<sub>2</sub>S.

## 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>	10 Vol.-%	No effect	No effect
Carbon monoxide	CO	500 ppm	≤ 1	500
Chlorine	Cl <sub>2</sub>	10 ppm	≤ 1 (-)	No effect
Dimethyl disulfide	CH <sub>3</sub> SSCH <sub>3</sub>	20 ppm	≤ 5	No effect
Dimethylsulfide	(CH <sub>3</sub> ) <sub>2</sub> S	20 ppm	≤ 5	No effect
Ethyl alcohol	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	≤ 200
Hydrogen chloride	HCl	40 ppm	No effect	No effect
Hydrogen cyanide	HCN	50 ppm	30	No effect
Hydrogen sulfide	H <sub>2</sub> S	30 ppm	30	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	No effect
Nitrogen dioxide	NO <sub>2</sub>	20 ppm	≤ 4 (-)	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	≤ 5	No effect
Sulphur dioxide	SO <sub>2</sub>	20 ppm	≤ 1.5	No effect
tert- Butyl mercaptan	(CH <sub>3</sub> ) <sub>3</sub> CSH	20 ppm	≤ 4	No effect
Tetrahydrothiophene	C <sub>4</sub> H <sub>8</sub> S	20 ppm	≤ 3	No effect

(-) Indicates negative deviation