DrägerSensor® XXS H_2S 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_2S, SO_2) 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_2S 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.

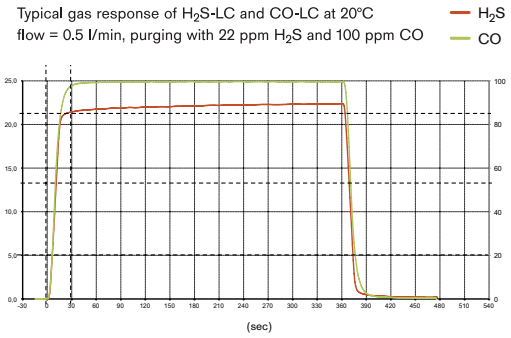
TECHNICAL SPECIFICATIONS

Detection limit:	0,4 ppm (H_2S)/1 ppm (CO)
Resolution:	0.1 ppm (H_2S)/1 ppm (CO)
Measurement range:	0 to 100 ppm H_2S (hydrogen sulfide) 0 to 2,000 ppm CO (carbon monoxide)
Response time:	≤ 20 seconds (t_{90})
Precision	
Sensitivity:	H_2S: ≤ ± 5 % of measured value, CO: ≤ ± 2 % of measured value
Long-term drift, at 20°C (68°F)	
Zero point:	H_2S: ≤ ± 0,2 ppm/year, CO: ≤ ± 2 ppm/year
Sensitivity:	H_2S: ≤ ± 5 % of measured value/year, CO: ≤ ± 3 % of measured value/year
Warm-up time:	H_2S: ≤ 5 minutes, CO: ≤ 15 minutes
Ambient conditions	
Temperature*:	(–40 to 50)°C (–40 to 122)°F
Humidity*:	(10 to 90)% RH
Pressure:	(700 to 1,300) hPa
Influence of temperature	
Zero point:	$H_{2â}S$: no effect, CO: ≤ ± 5 ppm
Sensitivity:	H_2S: ≤ ± 5 % of measured value, CO: ≤ ± 0.3 % of measured value/K
Influence of humidity	
Zero point:	No effect
Sensitivity:	H_2S: ≤ ± 0.1 % of measured value/ %r.h., CO: ≤ ± 0.02 % of measured value/ %r.h.
Test gas:	approx. 5 to 90 ppm H_2S approx. 20 to 1800 ppm CO

Very fast temperature changes lead to temporary displays on the CO channel. After approx. 10 minutes, the signal stabilizes again.

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 limitvalue monitoring.



The values shown in the following table are standard and apply to new sensors. The values maybe fluctuate by ± 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_2S. To be sure, please check if gas mixtures are present. H_2S.

RELEVANT CROSS-SENSITIVITIES

Gas/vapor	Chem. symbol	Concentration	Display in ppm H_2S	Display in ppm CO
Acetylene	C_2H_2	100 ppm	No effect	≤ 200
Ammonia	NH_3	100 ppm	No effect	No effect
Carbon dioxide	CO_2	10 Vol.-%	No effect	No effect
Carbon disulfide	CS_2	50 ppm	No effect	n.a.
Carbon monoxide	CO	500 ppm	≤ 1	500
Chlorine	Cl_2	10 ppm	≤ 1 (–)	No effect
Dimethyl disulfide	CH_3SSCH_3	20 ppm	≤ 5	No effectt
Dimethylsulfide	$(CH_3)_2S$	20 ppm	≤ 5	No effect
Ethene	C_2H_4	100 ppm	≤ 1	≤ 300
Ethanol	C_2H_5OH	250 ppm	No effect	No effect
Ethyl mercaptan	C_2H_5SH	20 ppm	≤ 13	no effect
Hydrogen	H_2	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_2S	30 ppm	30	No effect
Isobutylene	$(CH_3)_2CCH_2$	100 ppm	No effect	No effect
Methane	CH_4	5 Vol.-%	No effect	No effect
Methyl mercaptan	CH_3SH	20 ppm	≤ 16 ppm	No effect
Nitrogen dioxide	NO_2	20 ppm	≤ 4 (–)	No effect
Nitrogen monoxide	NO	30 ppm	No effect	≤ 5
Propane	C_3H_8	1 Vol.-%	No effect	No effect
sec-Butyl mercaptan	$C_4H_{10}S$	20 ppm	≤ 5	No effect
Sulphur dioxide	SO_2	20 ppm	≤ 1.5	No effect
tert- Butyl mercaptan	$(CH_3)_3CSH$	20 ppm	≤ 4	No effect
Tetrahydrothiophene	C_4H_8S	20 ppm	≤ 3	No effect

(–) Indicates negative deviation