DrägerSensor® XXS H_2S/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

Internal selective filter for CO - unexchangeable

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

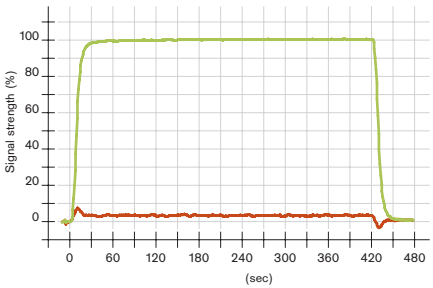
Detection limit:	2 ppm (H_2S)/6 ppm (CO)
Resolution:	1 ppm (H_2S)/2 ppm (CO)
Measurement range:	0 to 200 ppm H_2S (hydrogen sulfide)
	0 to 2,000 ppm CO (carbon monoxide)
Response time:	≤ 20 seconds (t_{90})
Precision	
Sensitivity:	≤ ± 2% of measured value
Long-term drift, at 20°C (68°F)	
Zero point:	≤ ± 2 ppm/year
Sensitivity:	≤ ± 1% of measured value/month
Warm-up time:	≤ 5 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:	≤ ± 2 ppm (H_2S) ≤ ± 5 ppm (CO)
Sensitivity:	≤ ± 5% of measured value (H_2S) ≤ ± 0.3% of measured value/K (CO)
Influence of humidity	
Zero point:	No effect
Sensitivity:	≤ ± 0.05% of measured value/% RH
Test gas:	approx. 5 to 90 ppm H_2S
	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.

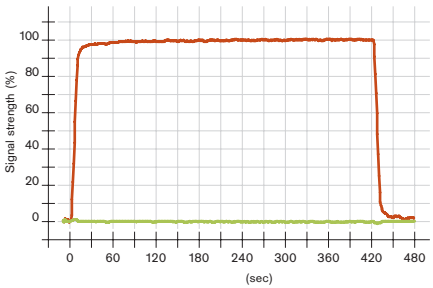
SPECIAL CHARACTERISTICS

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_2S at 20 °C/68 °F
Flow = 0.5 l/min, with 20 ppm H_2S



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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.

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	30 vol. %	No effect	No effect
Carbon monoxide	CO	100 ppm	No effect	100
Chlorine	Cl_2	20 ppm	≤ 2 (–) [1]	No effect
Dimethyl disulfide	CH_3SSCH_3	20 ppm	≤ 11	No effectt
Dimethylsulfide	$(CH_3)_2S$	20 ppm	≤ 5	No effect
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	≤ 350
Hydrogen chloride	HCl	40 ppm	No effect	No effect
Hydrogen cyanide	HCN	50 ppm	No effect	No effect
Hydrogen sulfide	H_2S	20 ppm	20	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	≤ 16 ppm
Nitrogen dioxide	NO_2	20 ppm	≤ 5 (–) [1]	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	≤ 7	No effect
Sulphur dioxide	SO_2	25 ppm	≤ 2	No effect
tert- Butyl mercaptan	$(CH_3)_3CSH$	20 ppm	≤ 8	No effect
Tetrahydrothiophene	C_4H_8S	20 ppm	≤ 3	No effect

(–) [1] negative reading