DrägerSensor® XXS CO H_2-CP

Order no. 68 11 950

Used in	Plug & Play	Replaceable	Guaranty	Expected sensor life
Dräger X-am 5000	no	yes	1 year	> 3 years
Dräger X-am 5600	no	yes	1 year	> 3 years

Selective filter

Internal selective filter.

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

Steel industry, refineries, sewage treatment plants

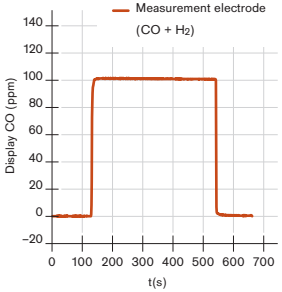
TECHNICAL SPECIFICATIONS

Detection limit:	6 ppm
Resolution:	2 ppm
Measurement range:	0 to 2,000 ppm CO (carbon monoxide)
Response time:	≤ 25 seconds (T_{90})
Measurement accuracy	
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:	≤ 12 hours
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:	≤ ± 5 ppm
Sensitivity:	≤ ± 0.3% of measured value/K
Influence of humidity	
Zero point:	No effect
Sensitivity:	≤ ± 0.02% of measured value/% RH
Test gas:	approx. 20 to 1,800 ppm CO and 1,000 ppm H_2

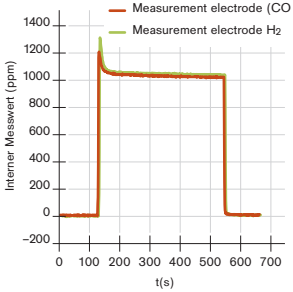
SPECIAL CHARACTERISTICS

Carbon monoxide and hydrogen can occur simultaneously in many areas of work such as in the steel industry, refineries, and sewage treatment plants. Hydrogen affects the CO signal in conventional sensors, which leads to many false alarms. The DrägerSensor® XXS CO H_2-CP uses two measuring electrodes – one of which measures CO and H_2, the other only H_2. The CO level is calculated and displayed on the basis of the difference between the two signals. A hydrogen concentration of 1,000 ppm (2.5% LEL) causes a maximum displayed concentration of only 15 ppm CO, which does not activate the CO alarm.

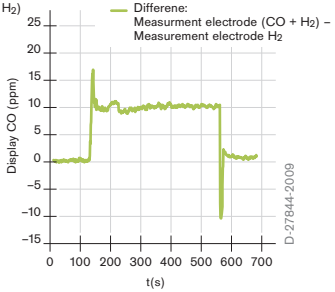
Sensor reaction 100 ppm CO



Internal H_2 signal
Sensor reaction 1022 ppm H_2



Calculated signal
Sensor reaction 1022 ppm H_2



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. To be sure, please check if gas mixtures are present.

RELEVANT CROSS-SENSITIVITIES

Gas/vapor	Chem. symbol	Concentration	Display in ppm CO
Ammonia	NH_3	100 ppm	No effect
Carbon dioxide	CO_2	30 Vol.-%	No effect
Chlorine	Cl_2	20 ppm	No effect
Ethanol	C_2H_5OH	250 ppm	No effect
Ethine	C_2H_2	100 ppm	≤ 200
Hydrogen	H_2	0.1 Vol.-%	< = ±15 [1]
Hydrogen chloride	HCl	40 ppm	No effect
Hydrogen cyanide	HCN	50 ppm	No effect
Hydrogen sulfide	H_2S	30 ppm	No effect
Isobutylene	$(CH_3)_2CCH_2$	100 ppm	No effect
Methane	CH_4	5 Vol.-%	No effect
Nitrogen dioxide	NO_2	20 ppm	No effect
Nitrogen monoxide	NO	30 ppm	≤ 5
Propane	C_3H_8	1 Vol.-%	No effect
Sulfur dioxide	SO_2	25 ppm	No effect

[1] after compensation