DrägerSensor® XS EC SO_2

Order no. 68 09 160

Used in	Plug & Play	Replaceable	Guaranty	Expected sensor life
Dräger X-am 7000	yes	yes	1 year	> 2 years

Selective filter

K1T, 68 09 163 – replaceable

Eliminates cross-sensitivity to hydrogen sulfide (H_2S).

The filter's service life can be calculated as follows: 2,000 ppm x hours of contaminant gas. Example: Given constant concentration of 1 ppm H_2S will be: Service life = 2,000 ppm x hours/1 ppm = 2,000 hours.

The measurement value response time increases after the installation of the filter.

MARKET SEGMENTS

Food industry, pest control, mining, oil and gas, petrochemicals, pulp and paper, shipping, steel

TECHNICAL SPECIFICATIONS

Detection limit:	0.5 ppm
Resolution:	0.1 ppm
Measurement range:	0 to 100 ppm SO_2 (sulfur dioxide)
Response time:	≤ 20 seconds (t_{90})
Precision	
Sensitivity:	≤ ± 2% of measured value
Long-term drift, at 20°C (68°F)	
Zero point:	≤ ± 1 ppm/month
Sensitivity:	≤ ± 2% of measured value/month
Warm-up time:	≤ 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:	≤ ± 1 ppm
Sensitivity:	≤ ± 5% of measured value
Influence of humidity	
Zero point:	≤ ± 0.002 ppm/% RH
Sensitivity:	≤ ± 0.2% of measured value/% RH
Test gas:	approx. 1 to 100 ppm SO_2 test gas

SPECIAL CHARACTERISTICS

In addition to a fast response time and excellent linearity, this sensor is highly selective if the selective filter is used. The K1T selective filter (order no. 68 09 163) is an accessory for the DrägerSensor® XS EC SO_2 and eliminates the sensor's cross-sensitivity to hydrogen sulfide. The filter has a lifetime of 2,000 ppm × hours, which means that at a hydrogen sulfide concentration of 1 ppm it can be used for 2,000 hours.

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 SO_2. To be sure, please check if gas mixtures are present.

RELEVANT CROSS-SENSITIVITIES

Gas/vapor	Chem. symbol	Concentration	Display in ppm SO_2 without selective filter
Acetaldehyde	CH_3CHO	500 ppm	No effect
Acetone	CH_3COCH_3	1,000 ppm	No effect
Acetylene	C_2H_2	200 ppm	≤ 60
Ammonia	NH_3	200 ppm	No effect
Carbon dioxide	CO_2	30 Vol. %	No effect
Carbon monoxide	CO	125 ppm	No effect
Chlorine	Cl_2	5 ppm	≤ 5(–)
Ethene	C_2H_4	50 ppm	No effect
Formaldehyde	HCHO	50 ppm	≤ 1
Hydrogen cyanide	HCN	20 ppm	≤ 10
Hydrogen	H_2	1,000 ppm	≤ 2
Hydrogen sulfide	H_2S	20 ppm	≤ 100
Methane	CH_4	2 Vol. %	No effect
Methanol	CH_3OH	175 ppm	No effect
Nitrogen dioxide	NO_2	20 ppm	≤ 20(–)
Nitrogen monoxide	NO	20 ppm	No effect
Phosphine	PH_3	5 ppm	≤ 50
Tetrahydrothiophene	C_4H_8S	10 ppm	≤ 5

(–) Indicates negative deviation