DrägerSensor® XXS SO_2

Order no. 68 10 885

Used in	Plug & Play	Replaceable	Guaranty	Expected sensor life
Dräger Pac 6000/ 6500	no	yes	2 years	> 3 years
Dräger Pac 7000	no	yes	2 years	> 3 years
Dräger X-am 2500	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

KX (68 11 344) replaceable.

Cross sensitivities to hydrogen sulfide (H_2S) are eliminated.

The filter's service life can be calculated as follows: 1,000 ppm x hours of contaminant gas. Example: Given constant concentration of 10 ppm H_2S will be: Service life = 1,000 ppm x hours / 10 ppm = 100 hours. Due to the change of sensitivity, a calibration is necessary after installation. The measurement value response time increases after the installation of the filter.

MARKET SEGMENTS

Food industry, pest control, mining, oil and gas, petrochemical, paper manufacture, shipping, steel industry.

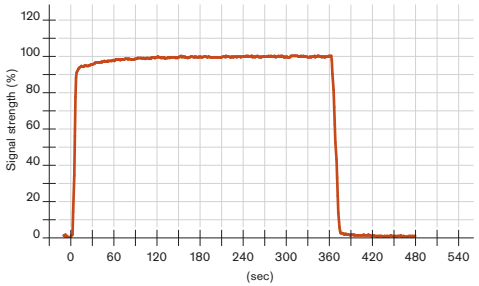
TECHNICAL SPECIFICATIONS

Detection limit:	0.1 ppm
Resolution:	0.1 ppm
Measurement range:	0 to 100 ppm SO_2 (sulfur dioxide)
Response time:	≤ 15 seconds (T_{90})
Measurement accuracy	
Sensitivity:	≤ ± 2% of measured value
Long-term drift, at 20°C (68°F)	
Zero point:	≤ ± 1 ppm/year
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:	No effect
Sensitivity:	≤ ± 0.1% of measured value/% RH
Test gas:	approx. 2 to 90 ppm SO_2

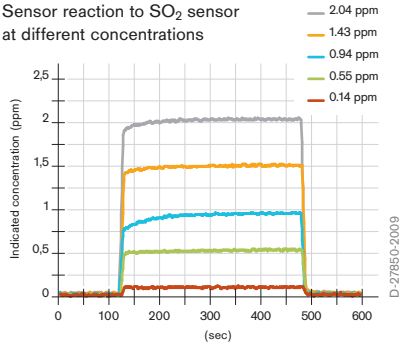
SPECIAL CHARACTERISTICS

As well as a fast response time and excellent linearity, this sensor is highly selective if the selective filter is used. The KX selective filter (order no. 68 11 344) is an accessory for the DrägerSensor® XXS EC SO_2 and eliminates the sensor's cross-sensitivity to hydrogen sulfide. The filter has a lifetime of 1,000 ppm × hours, which means that at a hydrogen sulfide concentration of 1 ppm, it can be used for 1,000 hours.

Sensor reaction to SO_2 at 20 °C/68 °F
Flow = 0.5 l/min, with 2 ppm SO_2



Sensor reaction to SO_2 sensor
at different concentrations



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_3. 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
Acetylene	C_2H_2	100 ppm	≤ 140
Ammonia	NH_3	50 ppm	No effect
Carbon dioxide	CO_2	1.5 Vol.-%	No effect
Carbon monoxide	CO	200 ppm	No effect
Chlorine	Cl_2	10 ppm	≤ 5 (–)
Ethanol	C_2H_5OH	250 ppm	No effect
Hydrogen	H_2	1,000 ppm	No effect
Hydrogen chloride	HCl	20 ppm	≤ 5
Hydrogen cyanide	HCN	20 ppm	≤ 10
Hydrogen sulfide	H_2S	20 ppm	≤ 60
Isobutylene	$(CH_3)_2CCH_2$	100 ppm	No effect
Methane	CH4	1 Vol.-%	No effect
Nitrogen dioxide	NO_2	20 ppm	≤ 30 (–)
Nitrogen monoxide	NO	20 ppm	No effect
Ozone	O_3	0.5 ppm	No effect
Phosphine	PH_3	1 ppm	≤ 6

(–) Indicates negative deviation