

# DrägerSensor® XXS SO<sub>2</sub>

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<sub>2</sub>S) 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<sub>2</sub>S 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.

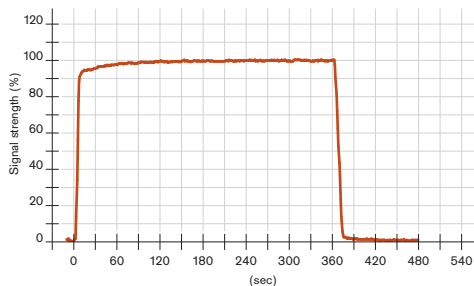
## TECHNICAL SPECIFICATIONS

<b>Detection limit:</b>	0.1 ppm
<b>Resolution:</b>	0.1 ppm
<b>Measurement range:</b>	0 to 100 ppm SO <sub>2</sub> (sulfur dioxide)
<b>Response time:</b>	≤ 15 seconds (T <sub>90</sub> )
<b>Measurement accuracy</b>	
Sensitivity:	≤ ± 2% of measured value
<b>Long-term drift, at 20°C (68°F)</b>	
Zero point:	≤ ± 1 ppm/year
Sensitivity:	≤ ± 2% of measured value/month
<b>Warm-up time:</b>	≤ 15 minutes
<b>Ambient conditions</b>	
Temperature:	(-40 to 50)°C (-40 to 122)°F
Humidity:	(10 to 90)% RH
Pressure:	(700 to 1,300) hPa
<b>Influence of temperature</b>	
Zero point:	≤ ± 1 ppm
Sensitivity:	≤ ± 5% of measured value
<b>Influence of humidity</b>	
Zero point:	No effect
Sensitivity:	≤ ± 0.1% of measured value/% RH
<b>Test gas:</b>	approx. 2 to 90 ppm SO <sub>2</sub>

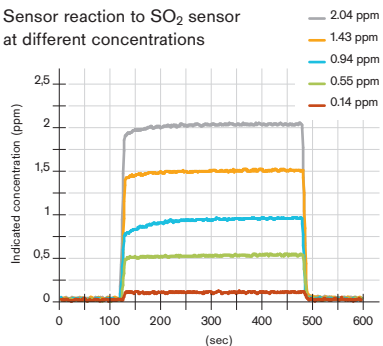
## SPECIAL CHARACTERISTICS

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<sub>2</sub> 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<sub>2</sub> at 20 °C/68 °F  
Flow = 0.5 l/min, with 2 ppm SO<sub>2</sub>



Sensor reaction to SO<sub>2</sub> sensor  
at different concentrations



The values shown in the following table are standard and apply to new sensors. The values may fluctuate by  $\pm 30\%$ . 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<sub>3</sub>. To be sure, please check if gas mixtures are present.

## RELEVANT CROSS-SENSITIVITIES

Gas/vapor	Chem. symbol	Concentration	Display in ppm SO <sub>2</sub> without selective filter
Acetylene	C <sub>2</sub> H <sub>2</sub>	100 ppm	≤ 140
Ammonia	NH <sub>3</sub>	50 ppm	No effect
Carbon dioxide	CO <sub>2</sub>	1.5 Vol.-%	No effect
Carbon monoxide	CO	200 ppm	No effect
Chlorine	Cl <sub>2</sub>	10 ppm	≤ 5 <sup>(-)</sup>
Ethanol	C <sub>2</sub> H <sub>5</sub> OH	250 ppm	No effect
Hydrogen	H <sub>2</sub>	1,000 ppm	No effect
Hydrogen chloride	HCl	20 ppm	≤ 5
Hydrogen cyanide	HCN	20 ppm	≤ 10
Hydrogen sulfide	H <sub>2</sub> S	20 ppm	≤ 60
Isobutylene	(CH <sub>3</sub> ) <sub>2</sub> CCH <sub>2</sub>	100 ppm	No effect
Methane	CH <sub>4</sub>	1 Vol.-%	No effect
Nitrogen dioxide	NO <sub>2</sub>	20 ppm	≤ 30 <sup>(-)</sup>
Nitrogen monoxide	NO	20 ppm	No effect
Ozone	O <sub>3</sub>	0.5 ppm	No effect
Phosphine	PH <sub>3</sub>	1 ppm	≤ 6

(-) Indicates negative deviation