

DrägerSensor® XS EC SO₂

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

KIT, 68 09 163 – replaceable

Eliminates cross-sensitivity to hydrogen sulfide (H₂S).

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 H₂S 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)
Measurement accuracy	
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 SO₂ 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 may 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 SO₂. 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 ₃ CHO	500 ppm	No effect
Acetone	CH ₃ COCH ₃	1,000 ppm	No effect
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 ₂ H ₄	50 ppm	No effect
Ethine	C ₂ H ₂	200 ppm	≤ 60
Formaldehyde	HCHO	50 ppm	≤ 1
Hydrogen cyanide	HCN	20 ppm	≤ 10
Hydrogen	H ₂	1,000 ppm	≤ 2
Hydrogen sulfide	H ₂ S	20 ppm	≤ 100
Methane	CH ₄	2 Vol. %	No effect
Methanol	CH ₃ OH	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 ₄ H ₈ S	10 ppm	≤ 5

CONTENTS XXS SENSORS

DrägerSensor® XXS	Chemical name (synonym)	
XXS Amine	amine like methylamine, ethylamine, dimethylamine etc.	190
XXS Cl ₂	chlorine	192
XXS CO	carbon monoxide	194
XXS E CO	carbon monoxide	194
XXS CO LC	carbon monoxide	198
XXS CO HC	carbon monoxide	200
XXS CO H ₂ -CP	carbon monoxide / hydrogen	202
XXS CO ₂	carbon dioxide	204
XXS COCl ₂	phosgene	206
XXS H ₂	hydrogen	208
XXS H ₂ HC	hydrogen	210
XXS HCN	hydrogen cyanide	212
XXS HCN PC	hydrogen cyanide	214
XXS H ₂ S	hydrogen sulfide	216
XXS E H ₂ S	hydrogen sulfide	216
XXS H ₂ S HC	hydrogen sulfide	220
XXS H ₂ S LC	hydrogen sulfide	222
XXS H ₂ S / CO	hydrogen sulfide / carbon monoxide	224
XXS H ₂ S LC / CO LC	hydrogen sulfide / carbon monoxide	226
XXS NH ₃	ammonia	228
XXS NO	nitrogen monoxide	230
XXS NO ₂	nitrogen dioxide	232
XXS NO ₂ LC	nitrogen dioxide	234
XXS OV	organic gases and vapors like ethylene oxide, ethene, propene etc.	236
XXS OV-A	organic gases and vapors like ethylene oxide, styrene isobutylene etc.	240
XXS O ₂	oxygen	244
XXS E O ₂	oxygen	244
XXS O ₂ / CO LC	oxygen / carbon monoxide	248
XXS O ₂ 100	oxygen	250
XXS Odorant	sulfur compounds like tetrahydrothiophene, methylmercaptan, ethylmercaptan etc.	252

XXS Ozone	Ozone	254
XXS PH ₃	hydrogen phosphide, arsine, diborane, silane	256
XXS PH ₃ HC	hydrogen phosphide	258
XXS SO ₂	sulfur dioxide	260