

DrägerSensor® XXS OV

Order no. 68 11 530

Used in	Plug & Play	Replaceable	Guaranty	Expected sensor life	Selective filter
Dräger Pac 7000	no	yes	1 year	> 2 years	no
Dräger Pac 8000	no	yes	1 year	> 2 years	no
Dräger X-am 5000	no	yes	1 year	> 2 years	no
Dräger X-am 5600	no	yes	1 year	> 2 years	no
Dräger X-am 8000	no	yes	1 year	> 2 years	no

MARKET SEGMENTS

Production of plastics, disinfection, painter, chemical industry, pest control.

TECHNICAL SPECIFICATIONS

Detection limit:	0.5 ppm																												
Resolution:	0.5 ppm																												
Measurement range/ relative sensitivity	<table> <tr> <th></th><th>C₂H₄O¹⁾</th></tr> <tr> <td>0 to 200 ppm C₂H₄O (ethylene oxide)</td><td>1.00</td></tr> <tr> <td>0 to 200 ppm C₃H₆O (propylene oxide)</td><td>0.85</td></tr> <tr> <td>0 to 100 ppm C₂H₄ (ethene)</td><td>0.60</td></tr> <tr> <td>0 to 100 ppm C₃H₆ (propene)</td><td>0.65</td></tr> <tr> <td>0 to 100 ppm C₂H₃Cl (vinyl chloride)</td><td>0.60</td></tr> <tr> <td>0 to 200 ppm CH₃OH (methanol)</td><td>0.35</td></tr> <tr> <td>0 to 100 ppm CH₂CHCHCH₂ (butadiene)</td><td>1.40</td></tr> <tr> <td>0 to 100 ppm HCHO (formaldehyde)</td><td>0.80</td></tr> <tr> <td>0 to 300 ppm (H₃C)₂CHOH (isopropanol)</td><td>0.35</td></tr> <tr> <td>0 to 200 ppm C₄H₈O (tetrahydrofuran)</td><td>1.00</td></tr> <tr> <td>0 to 100 ppm C₂H₃OCH₂Cl (1-chloro-2,3 epoxypropane)</td><td>0.35</td></tr> <tr> <td>0 to 100 ppm C₆H₅CHCH₂ (styrene)</td><td>0.70</td></tr> <tr> <td>0 to 100 ppm H₂CC(CH₃)COOCH₃ (methyl methacrylate)</td><td>0.40</td></tr> </table>		C ₂ H ₄ O ¹⁾	0 to 200 ppm C ₂ H ₄ O (ethylene oxide)	1.00	0 to 200 ppm C ₃ H ₆ O (propylene oxide)	0.85	0 to 100 ppm C ₂ H ₄ (ethene)	0.60	0 to 100 ppm C ₃ H ₆ (propene)	0.65	0 to 100 ppm C ₂ H ₃ Cl (vinyl chloride)	0.60	0 to 200 ppm CH ₃ OH (methanol)	0.35	0 to 100 ppm CH ₂ CHCHCH ₂ (butadiene)	1.40	0 to 100 ppm HCHO (formaldehyde)	0.80	0 to 300 ppm (H ₃ C) ₂ CHOH (isopropanol)	0.35	0 to 200 ppm C ₄ H ₈ O (tetrahydrofuran)	1.00	0 to 100 ppm C ₂ H ₃ OCH ₂ Cl (1-chloro-2,3 epoxypropane)	0.35	0 to 100 ppm C ₆ H ₅ CHCH ₂ (styrene)	0.70	0 to 100 ppm H ₂ CC(CH ₃)COOCH ₃ (methyl methacrylate)	0.40
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Response time:	≤ 20 seconds (T ₅₀)																												
Measurement accuracy																													
Sensitivity:	≤ ± 5% of measured value																												
Long-term drift, at 20°C (68°F)																													
Zero point:	≤ ± 5 ppm/year																												
Sensitivity:	≤ ± 2% of measured value/month																												
Warm-up time:	≤ 18 hours																												
Ambient conditions																													
Temperature:	(-20 to 50)°C (-4 to 122)°F																												
Humidity:²⁾	(30 to 90)% RH																												
Pressure:	(700 to 1,300) hPa																												
Influence of temperature																													
Zero point:	± 2 ppm at (-20 to 40)°C (-4 to 104)°F																												
Zero point:	± 0.5 ppm/K at (40 to 50)°C (104 to 122)°F																												
Sensitivity:	≤ ± 1% of measured value/K																												
Influence of humidity																													
Zero point:	No effect																												
Sensitivity:	≤ ± 0.5% of measured value/% RH																												

TECHNICAL SPECIFICATIONS

Test gas:

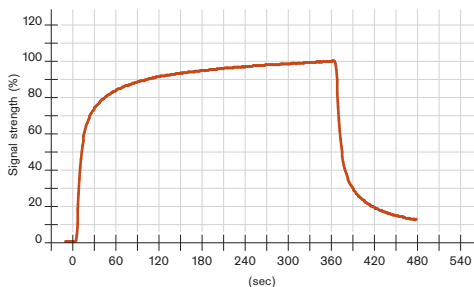
approx. 3 to 50 ppm C_2H_4O

The Dräger Sensor XXS OV has a defined cross-sensitivity to ethylene oxide (EO). It can be calibrated with EO as a replacement for all of its target gases. This replacement calibration using EO can produce an additional measuring error of up to 30%³. We recommend that devices are calibrated with the gas you intend to detect in actual operation. Calibration using the target gas is more accurate than replacement gas calibration.

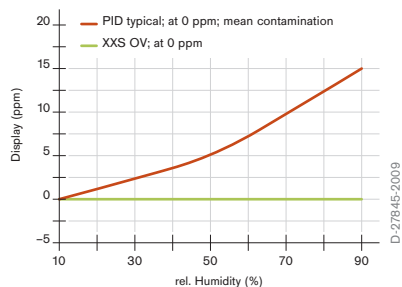
SPECIAL CHARACTERISTICS

This sensor is especially suited for detecting leakages of numerous organic gases and vapors. Although it does not detect as broad a spectrum of gases as a PID sensor, it has the key advantage of being almost completely insensitive to moisture. It also does not need to be calibrated every day, having instead a six-month calibration interval typical of electrochemical sensors.

Sensor reaction to C_2H_4O at 20 °C/68 °F
Flow = 0.5 l/min, with 20 ppm C_2H_4O



Influence of humidity on XXS OV sensors
and PID sensors



- 1) Factors depend on serial numbers and are mentioned in the supplement to the sensor instructions for use (90 33 548).
- 2) A use or storage over a longer period below the specified relative humidity may cause a change of sensor sensitivity due to dehydration. This effect is reversible once the relative humidity increases. Please consider the storage conditions stated on the packaging or in the instruction for use.
- 3) only valid for use and storage in > 30 % r.h.

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

RELEVANT CROSS-SENSITIVITIES

Gas/vapor	Chem. symbol	Concentration	Display in ppm C ₂ H ₄ O
Acetaldehyde	CH ₃ CHO	55 ppm	≤ 15
Acetic acid	CH ₃ COOH	100 ppm	No effect
Acetylene	C ₂ H ₂	100 ppm	≤ 150
Acrylonitrile	H ₂ CCHCN	80 ppm	≤ 5
Ammonia	NH ₃	100 ppm	No effect
Benzene	C ₆ H ₆	2,000 ppm	No effect
Butyraldehyd	C ₃ H ₇ CHO	50 ppm	≤ 17 ppm
Carbon dioxide	CO ₂	30 Vol.-%	No effect
Carbon monoxide	CO	100 ppm	≤ 44
Chlorine	Cl ₂	10 ppm	No effect
Chlorobenzene	C ₆ H ₅ Cl	200 ppm	No effect
Dichloromethane	CH ₂ Cl ₂	1,000 ppm	No effect
Diethyl ether	(C ₂ H ₅) ₂ O	100 ppm	≤ 60
Dimethylformamide	HCON(CH ₃) ₂	100 ppm	No effect
Ethane	C ₂ H ₆	0.2 Vol.-%	No effect
Ethanol	C ₂ H ₅ OH	250 ppm	≤ 150
Ethyl acetate	CH ₃ COOC ₂ H ₅	100 ppm	No effect
Hydrogen	H ₂	1,000 ppm	≤ 5
Hydrogen chloride	HCl	20 ppm	≤ 5
Hydrogen cyanide	HCN	20 ppm	≤ 10
Hydrogen sulfide	H ₂ S	20 ppm	≤ 40
Isobutylene	(CH ₃) ₂ CCH ₂	50 ppm	≤ 45
Nitrogen dioxide	NO ₂	20 ppm	≤ 2
Nitrogen monoxide	NO	20 ppm	≤ 20
Methane	CH ₄	2 Vol.-%	No effect
Methyl isobutyl ketone	(CH ₃) ₂ CHCH ₂ COCH ₃	500 ppm	No effect
Phosgene	COCl ₂	50 ppm	No effect
Sulfur dioxide	SO ₂	20 ppm	≤ 10
Tetrachloroethylene	CCl ₂ CCl ₂	100 ppm	No effect
Toluene	C ₆ H ₅ CH ₃	1,000 ppm	No effect
Trichloroethylene	CHClCCl ₂	1,000 ppm	No effect
Vinyl acetate	CH ₃ COOC ₂ H ₃	30 ppm	≤ 30
Xylene	C ₆ H ₄ (CH ₃) ₂	0.2 Vol.-%	No effect