DrägerSensor® XS EC OV

Order no. 68 09 115

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

MARKET SEGMENTS

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

TECHNICAL SPECIFICATIONS

Detection limit:	1 ppm				
Resolution:	0.5 ppm				
Measurement range/	0 to 200 ppm C ₂ H ₄ O (ethylene oxide) 1.00				
relative sensitivity	0 to 200 ppm C ₃ H ₆ O (propylene oxide) 0.80				
	0 to 100 ppm C ₂ H ₄ (ethene) 1.10				
	0 to 100 ppm C ₃ H ₆ (propene) 0.70				
	0 to 100 ppm C ₂ H ₃ Cl (vinyl chloride) 0.80				
	0 to 200 ppm CH ₃ OH (methanol) 1.20				
	0 to 300 ppm C ₂ H ₅ OH (ethanol) 0.60				
	0 to 200 ppm CH ₃ CHO (acetaldehyde) 0.30				
	0 to 100 ppm CH ₂ CHCHCH ₂ (butadiene) 1.20				
	0 to 100 ppm HCHO (formaldehyde) 1.00				
	0 to 100 ppm CH ₃ COOC ₂ H ₃ (vinyl acetate) 0.80				
	0 to 300 ppm (H ₃ C) ₂ CHOH (isopropanol) 0.30				
Response time:	≤ 90 seconds (T ₅₀)				
Measurement accuracy					
Sensitivity:	≤ ± 5% of measured value				
Long-term drift, at 20°C (68°F					
Zero point:	≤ ± 2 ppm/month				
Sensitivity:	≤ ± 5% of measured value/month				
Warm-up time:	≤ 18 hours				
Ambient conditions					
Temperature:	(-20 to 50)°C (-4 to 122)°F				
Humidity:	(10 to 90)% RH				
Pressure:	(700 to 1,300) hPa				
Influence of temperature					
Zero point:	≤ ± 0.1 ppm/K at (−20 to 40)°C (−4 to 104)°F				
Zero point:	≤ ± 1 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:	≤ ± 0.2% of measured value/% RH				
Test gas:	5 to 100 ppm C ₂ H ₄ , C ₃ H6, C ₂ H ₃ Cl, CH ₂ CHCHCH ₂ , HCHO,				
	CH ₃ COOC ₂ H ₃				
	5 to 200 ppm C ₂ H ₄ O, C ₃ H ₆ O, CH ₃ OH				
	10 to 200 ppm CH ₃ CHO				
	20 to 300 ppm C ₂ H ₅ OH, (H ₃ C) ₂ CHOH				

SPECIAL CHARACTERISTICS

This sensor is especially suited to detect leakages of numerous organic gases and vapors. Although it does not detect as broad a spectrum of gases as a PID, 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. Furthermore, for the majority of gases it is enough to calibrate it using ethylene oxide, whereby all other gases are automatically calibrated as well. The exceptions are ethyne, tetrahydrofuran, and diethyl ether, which have to be calibrated using the target gas.

The values shown in the following table are standard and apply to new sensors. The values maybe 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
Acetic acid	CH₃COOH	100 ppm	No effect
Acetone	CH ₃ COCH ₃	1,000 ppm	≤ 15
Ammonia	NH ₃	100 ppm	No effect
Benzene	C ₆ H ₆	2,000 ppm	No effect
Carbon dioxide	CO ₂	30 Vol. %	No effect
Carbon monoxide	CO	100 ppm	≤ 56
Chlorine	Cl ₂	10 ppm	No effect
Chlorobenzene	C ₆ H ₅ CI	200 ppm	No effect
Dichloromethane	CH ₂ Cl ₂	1,000 ppm	No effect
Dimethyl disulfide	(CH ₃) ₂ S ₂	50 ppm	≤ 65
Dimethyl sulfide	(CH ₃) ₂ S	50 ppm	≤ 40
Dimethylformamide	HCON(CH ₃) ₂	100 ppm	No effect
Ethane	C ₂ H ₆	0.2 Vol. %	No effect
Ethyl acetate	CH ₃ COOC ₂ H ₅	100 ppm	No effect
Gasoline, F 50	-	700 ppm	≤ 20
Gasoline,	-	0.5 Vol. %	≤ 3
FAM regular gasoline			
Gasoline, premium unleaded -		700 ppm	≤ 70
Hydrogen	H ₂	5,000 ppm	≤ 50
Hydrogen chloride	HCI	40 ppm	≤ 10
Hydrogen cyanide	HCN	20 ppm	≤ 20
Hydrogen sulfide	H ₂ S	10 ppm	≤ 20
Methane	CH ₄	2 Vol. %	No effect
Methanethiol	CH ₃ SH	50 ppm	≤ 75
Methyl isobutyl ketone	(CH ₃) ₂ CHCH ₂ COCH ₃	500 ppm	No effect
Nitrogen dioxide	NO ₂	50 ppm	≤ 5
Nitrogen monoxide	NO	25 ppm	≤ 25
Phenol	C ₆ H ₅ OH	30 ppm	≤ 6
Phosgene	COCl ₂	50 ppm	No effect
Propane	C ₃ H ₈	1 Vol. %	≤ 3
Sulfur dioxide	SO ₂	10 ppm	≤ 4
Tetrachloroethylene	CCl ₂ CCl ₂	100 ppm	No effect
Toluene	C ₆ H ₅ CH ₃	1,000 ppm	No effect
Trichloroethylene	CHCICCI ₂	1,000 ppm	No effect
Xylol	C ₆ H ₄ (CH ₃) ₂	0.2 Vol. %	No effect

This sensor is not suitable for monitoring the limit values of ethylene oxide, propylene oxide, butadiene, formaldehyde, vinyl acetate or vinyl chloride.