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/ relative sensitivity	0 to 200 ppm C_2H_4O (ethylene oxide)	1.00
	0 to 200 ppm C_3H_6O (propylene oxide)	0.80
	0 to 100 ppm C_2H_4 (ethene)	1.10
	0 to 100 ppm C_3H_6 (propene)	0.70
	0 to 100 ppm C_2H_3Cl (vinyl chloride)	0.80
	0 to 200 ppm CH_3OH (methanol)	1.20
	0 to 300 ppm C_2H_5OH (ethanol)	0.60
	0 to 200 ppm CH_3CHO (acetaldehyde)	0.30
	0 to 100 ppm $CH_2CHCHCH_2$ (butadiene)	1.20
	0 to 100 ppm HCHO (formaldehyde)	1.00
	0 to 100 ppm $CH_3COOC_2H_3$ (vinyl acetate)	0.80
	0 to 300 ppm $(H_3C)_2CHOH$ (isopropanol)	0.30
Response time:	≤ 90 seconds (t_{50})	
Precision		
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_2H_4, C_3H_6, C_2H_3Cl, $CH_2CHCHCH_2$, HCHO, $CH_3COOC_2H_3$	
	5 to 200 ppm C_2H_4O, C_3H_6O, CH_3OH	
	10 to 200 ppm CH_3CHO	
	20 to 300 ppm C_2H_5OH, $(H_3C)_2CHOH$	

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 ± 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_2H_4O
Acetic acid	CH_3COOH	100 ppm	No effect
Acetone	CH_3COCH_3	1,000 ppm	≤ 15
Ammonia	NH_3	100 ppm	No effect
Benzene	C_6H_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_6H_5Cl	200 ppm	No effect
Dichloromethane	CH_2Cl_2	1,000 ppm	No effect
Dimethyl disulfide	$(CH_3)_2S_2$	50 ppm	≤ 65
Dimethyl sulfide	$(CH_3)_2S$	50 ppm	≤ 40
Dimethylformamide	$HCON(CH_3)_2$	100 ppm	No effect
Ethane	C_2H_6	0.2 Vol. %	No effect
Ethyl acetate	$CH_3COOC_2H_5$	100 ppm	No effect
Gasoline, F 50	–	700 ppm	≤ 20
Gasoline, FAM regular gasoline	–	0.5 Vol. %	≤ 3
Gasoline, premium unleaded	–	700 ppm	≤ 70
Hydrogen	H_2	5,000 ppm	≤ 50
Hydrogen chloride	HCl	40 ppm	≤ 10
Hydrogen cyanide	HCN	20 ppm	≤ 20
Hydrogen sulfide	H_2S	10 ppm	≤ 20
Methane	CH_4	2 Vol. %	No effect
Methanethiol	CH_3SH	50 ppm	≤ 75
Methyl isobutyl ketone	$(CH_3)_2CHCH_2COCH_3$	500 ppm	No effect
Nitrogen dioxide	NO_2	50 ppm	≤ 5
Nitrogen monoxide	NO	25 ppm	≤ 25
Phenol	C_6H_5OH	30 ppm	≤ 6
Phosgene	$COCl_2$	50 ppm	No effect
Propane	C_3H_8	1 Vol. %	≤ 3
Sulfur dioxide	SO_2	10 ppm	≤ 4
Tetrachloroethylene	CCl_2 CCl_2	100 ppm	No effect
Toluene	$C_6H_5CH_3$	1,000 ppm	No effect
Trichloroethylene	$CHClCCl_2$	1,000 ppm	No effect
Xylol	$C_6H_4(CH_3)_2$	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.