DrägerSensor® XXS OV-A

Order no. 68 11 535

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, paintshops, chemical industry.

TECHNICAL SPECIFICATIONS

Detection limit:	1 ppm	
Resolution:	1 ppm	
Measurement range/ relative sensitivity		C_2H_4O[1]
	0 to 200 ppm C_2H_4O (ethylene oxide)	≈ 1.00
	0 to 100 ppm H_2CCHCN (acrylonitrile)	≈ 0.15
	0 to 300 ppm $(CH_3)_2CCH_2$ (isobutylene)	≈ 0.90
	0 to 100 ppm $CH_3COOC_2H_3$ (vinyl acetate)	≈ 0.85
	0 to 300 ppm C_2H_5OH (ethanol)	≈ 0.55
	0 to 200 ppm CH_3CHO (acetaldehyde)	≈ 0.35
	0 to 200 ppm $(C_2H_5)_2O$ (diethyl ether)	≈ 0.75
	0 to 100 ppm C_2H_2 (acetylene)	≈ 1.40
Response time:	≤ 40 seconds (t_{50})	
Precision		
Sensitivity:	≤ ± 20% of measured value	
Long-term drift, at 20°C (68°F)		
Zero point:	≤ ± 5 ppm/year	
Sensitivity:	≤ ± 3% 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:	(–20 to 40)°C (–4 to 104)°F = ± 2 ppm	
Zero point:	(40 to 60)°C (104 to 140)°F = ± 0.5 ppm/K	
Sensitivity:	≤ ± 1% of measured value/K	
Influence of humidity		
Zero point:	No effect	
Sensitivity:	≤ ± 0.5% of measured value/% RH	

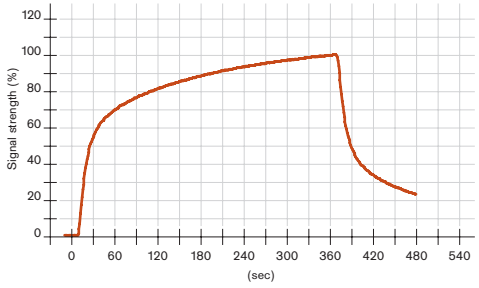
TECHNICAL SPECIFICATIONS

Test gas:	approx. 3 to 50 ppm C_2H_4O The Dräger Sensor XXS OV-A 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%. 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.

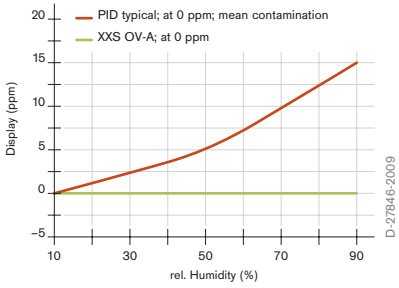
SPECIAL CHARACTERISTICS

The DrägerSensor® XXS OV-A has the same excellent characteristics as the DrägerSensor® XXS OV, but it has also been optimized for other organic gases and vapors. Just like the DrägerSensor® XXS OV, the DrägerSensor® XXS OV-A can be calibrated with EO as a replacement, this may produce an additional measuring error of 30%. For more accurate measurements, we recommend calibrating using the target gas – i.e. the gas that you intend to detect in actual operation.

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-A sensors and PID sensors



1) Factors depend on serial numbers and are mentioned in the supplement to the sensor instructions for use (90 33 549).
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.

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
1-chloro-2, 3 epoxypropane	$C_2H_3OCH_2Cl$	25 ppm	≤ 10
Acetic acid	CH_3COOH	100 ppm	No effect
Ammonia	NH_3	100 ppm	No effect
Benzene	C_6H_6	2,000 ppm	No effect
Butadiene	$CH_2CHCHCH_2$	50 ppm	≤ 75
Carbon dioxide	CO_2	30 Vol.-%	No effect
Carbon monoxide	CO	100 ppm	≤ 45
Chlorine	Cl_2	10 ppm	No effect
Chlorobenzene	C_6H_5Cl	200 ppm	No effect
Dichloromethane	CH_2Cl_2	1,000 ppm	No effect
Dimethylformamide	$HCON(CH_3)_2$	100 ppm	No effect
Ethene	C_2H_4	50 ppm	≤ 45
Ethyl acetate	$CH_3COOC_2H_5$	100 ppm	No effect
Formaldehyde	HCOH	40 ppm	≤ 25
Hydrogen	H_2	1,000 ppm	≤ 5
Hydrogen chloride	HCl	20 ppm	≤ 3
Hydrogen cyanide	HCN	20 ppm	≤ 8
Hydrogen sulfide	H_2S	20 ppm	≤ 40
Isobutylene	$(CH_3)_2CCH_2$	100 ppm	≤75
Isopropanol	$(H_3C)_2CHOH$	250 ppm	≤ 110
Methane	CH_4	2 Vol.-%	No effect
Methanol	CH_3OH	100 ppm	≤ 160
Methyl methacrylate	$H_2CC(CH_3)COOCH_3$	60 ppm	≤ 25
Methyl isobutyl ketone	$(CH_3)_2CHCH_2COCH_3$	500 ppm	No effect
Nitrogen dioxide	NO_2	20 ppm	≤ 1
Nitrogen monoxide	NO	20 ppm	≤ 15
Phosgene	$COCl_2$	50 ppm	No effect
Propene	C_3H_6	50 ppm	≤ 35
Propylene oxide	C_3H_6O	50 ppm	≤ 45
Sulfur dioxide	SO_2	20 ppm	≤ 9
Styrene	$C_6H_5CHCH_2$	35 ppm	≤ 35
Tetrahydrofuran	C_4H_8O	60 ppm	≤ 55
Trichloroethylene	$CHClCCl_2$	1,000 ppm	No effect
Vinyl chloride	C_2H_3Cl	50 ppm	≤ 40

ST-1713-2005

D-10157-2009

DrägerSensor® XXS OV-A