DrägerSensor® XXS Ozone

Order no. 68 11 540

Used in	Plug & Play	Replaceable	Guaranty	Expected sensor life	Selective filter
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

Ozone generator manufacturer, coal-fired power plants, water treatment (drinking and industrial water), food and beverage industry, swimming pools, pulp and paper industry, pharmaceutical and cosmetics industry

TECHNICAL SPECIFICATIONS

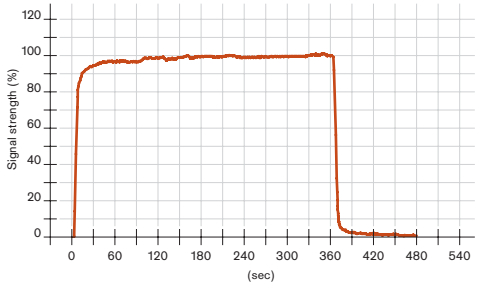
Detection limit:	0,02 ppm
Resolution:	0,01 ppm
Measurement range:	0 to 10 ppm O_3 (ozone)
Response time:	≤ 10 seconds (t_{50})
Precision	
Sensitivity:	≤ ± 3 % of measured value
Long-term drift, at 20°C (68°F)	
Zero point:	≤ ± 0.02 ppm/year
Sensitivity:	≤ ± 2 % of measured value/month
Warm-up time:	≤ 120 minutes
Ambient conditions	
Temperature:	(-20 to 50) °C (-4 to 122) °F
Humidity:*	(10 to 90) % RH
Pressure:	(700 to 1300) hPa
Influence of temperature	
Zero point:	No effect
Sensitivity:	≤ ± 0.5 % of measured value/K
Influence of humidity	
Zero point:	No effect
Sensitivity:	≤ ± 0.1 % of measured value/% RH
Test gas:	approx. 0.5 to 9 ppm O_3 5 ppm NO_2 The calibration and function test can be conducted both with the target gas O_3, as well as with the replacement test gas NO_2. Surrogate calibration with NO_2 can lead to an additional measuring error of up to ± 30 %. When conducting a function test with 5 ppm NO_2 an indication of 3.5 ±1 ppm O_3 is expected.

*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.

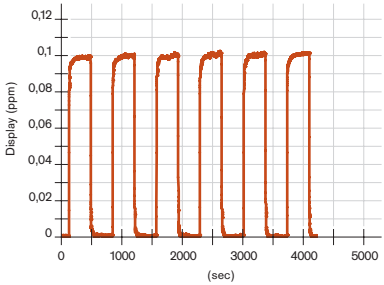
SPECIAL CHARACTERISTICS

A fast response time and excellent repeatability are just two examples of this sensor's special characteristics. With a detection limit of 0.02 ppm and a resolution of 0.01 ppm, it is also optimally suited for limit value monitoring.

Sensor reaction to O_3 at 20 °C
Flow = 0.5 l/min, 0.1 ppm O_3



Reproducibility of O_3 sensors
purged with 0.1 ppm O_3
average of five sensors



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

RELEVANT CROSS-SENSITIVITIES

Gas/vapor	Chem. symbol	Concentration	Display in ppm Ozone
Acetylene	C_2H_2	100 ppm	no effect
Ammonia	NH_3	30 ppm	no effect
Arsine	AsH_3	0,5 ppm	no effect
Carbon dioxide	CO_2	5 Vol.-%	no effect
Carbon monoxide	CO	2000 ppm	no effect
Chlorine	Cl_2	1 ppm	≤ 0.8
Chlorine dioxide	ClO_2	1 ppm	≤ 0.8
Ethane	C_3H_6	0,1 Vol.-%	no effect
Ethanol	C_2H_5OH	250 ppm	no effect
Hydrazine	N_2H_4	1 ppm	no effect
Hydrogen	H_2	0,1 Vol.-%	no effect
Hydrogen chloride	HCl	40 ppm	no effect
Hydrogen cyanide	HCN	50 ppm	no effect
Hydrogen sulfide	H_2S	1 ppm	≤ 0.02 (–)
Isobutylene	$(CH_3)_2CCH_2$	100 ppm	≤ 0.04
Methane	CH_4	5 Vol.-%	no effect
Nitrogen dioxide	NO_2	1 ppm	≤ 0.71
Nitrogen monoxide	NO	30 ppm	no effect
Phosphine	PH_3	0,5 ppm	no effect
Propane	C_3H_8	1 Vol.-%	no effect
Sulfur dioxide	SO_2	1 ppm	≤ 0.06 (–)

(–) Indicates negative deviation