

DrägerSensor® XS EC H₂O₂

Order no. 68 09 170

Used in	Plug & Play	Replaceable	Guaranty	Expected sensor life	Selective filter
Dräger X-am 5100	no	yes	1 year	> 2 years	–

MARKET SEGMENTS

Disinfection and sterilization, bleaching, decontaminating interior spaces.

TECHNICAL SPECIFICATIONS

Detection limit:	0.1 ppm
Resolution:	0.1 ppm
Measurement range:	0 to 20 ppm H ₂ O ₂ (hydrogen peroxide)
Response time:	≤ 60 seconds (t ₉₀)
Precision	
Sensitivity:	≤ ± 10% of measured value
Long-term drift, at 20°C (68°F)	
Zero point:	≤ ± 1 ppm/year
Sensitivity:	≤ ± 2% of measured value/month
Warm-up time:	≤ 12 hours
Ambient conditions	
Temperature:	(0 to 50)°C (32 to 122)°F
Humidity:	(10 to 90)% RH
Pressure:	(700 to 1,300) hPa
Influence of temperature	
Zero point:	≤ ± 1 ppm
Sensitivity:	≤ ± 0.5% of measured value/K
Influence of humidity	
Zero point:	≤ ± 0.01 ppm/% RH
Sensitivity:	≤ ± 0.1% of measured value/% RH
Test gas:	<p>Alternatively, the sensor can be calibrated with 10 ppm SO₂. Such surrogate calibration with SO₂ can lead to an additional measuring error of up to 30 %.</p> <p>Following a surrogate calibration or sensor change, the following bump test must be performed (at 20 °C to 30 °C):</p> <p>Add 15 mL of a 3 % hydrogen peroxide solution into a 25-mL beaker. Hold the device above the container.</p> <p>Evaluation: After a maximum of 30 seconds, the reading must be greater than 1 ppm H₂O₂. If the value displayed is less than 1 ppm H₂O₂, a new H₂O₂ solution must be used or a calibration carried out.</p>

SPECIAL CHARACTERISTICS

This sensor is used in the Dräger X-am 5100 to monitor the H_2O_2 (hydrogen peroxide) concentration in the ambient air. It offers high sensitivity (see cross-sensitivity table).

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 H_2O_2 . To be sure, please check if gas mixtures are present.

RELEVANT CROSS-SENSITIVITIES

Gas/vapor	Chem. symbol	Concentration	Display in ppm H_2O_2
Acetone	CH_3COCH_3	1,000 ppm	No effect
Acetylene	C_2H_2	200 ppm	≤ 35
Ammonia	NH_3	100 ppm	No effect
Carbon dioxide	CO_2	1.5 Vol. %	No effect
Carbon monoxide	CO	125 ppm	No effect
Chlorine	Cl_2	5 ppm	$\leq 1^{(-)}$
Ethene	C_2H_4	50 ppm	No effect
Hydrogen	H_2	1.5 Vol. %	≤ 5
Hydrogen chloride	HCl	15 ppm	≤ 3
Hydrogen cyanide	HCN	25 ppm	≤ 7
Hydrogen sulfide	H_2S	20 ppm	≤ 80
i-propanol	$(\text{CH}_3)\text{CHOH}$	500 ppm	No effect
Methane	CH_4	5 Vol. %	No effect
Methanol	CH_3OH	200 ppm	No effect
Nitrogen dioxide	NO_2	20 ppm	$\leq 15^{(-)}$
Nitrogen monoxide	NO	20 ppm	No effect
Phosphine	PH_3	5 ppm	≤ 15
Sulfur dioxide	SO_2	20 ppm	≤ 7
Tetrahydrothiophene	$\text{C}_4\text{H}_8\text{S}$	10 ppm	≤ 5